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# TREE URCHIN

Maine Chapter, The American Chestnut Foundation  
<http://www.me-acf.org>    [MaineTACF@gmail.com](mailto:MaineTACF@gmail.com)

## President's Message

By Al Faust

The big news from the Maine Chapter is the discovery of the tallest known American chestnut in North America. At a verified 115 feet tall, this tree in Lovell, Maine is taller than any other known American chestnut tree in the western hemisphere.

The discovery comes from the work of Dr. Brian Roth, a Maine Chapter board member and consultant at the University of Maine School of Forestry. Brian is combining data from a number of sources to determine the best sites for future chestnut tree plantings, based on soil type, drainage, exposure, and climate. These same tools help locate old growth chestnut trees. A flyover last July by Elias Ayrey, a forestry student with a pilot's license, helped locate the Lovell tree. Dave flew a Cessna that has been donated to the University; mid-July is an ideal time to locate American chestnuts because they are the only trees in bloom at that time.

The American Chestnut Foundation is using increasingly sophisticated scientific tools to meet its goal of restoring this iconic tree to the forests of the United States.

Thanks to national CEO Lisa Thomson and national staff geneticist Jared Westbrook for visiting us to witness the measurement of this tree. Finally, we are grateful to the University and our other partners for their support.



Shane Duigan of the Maine Forest Service measures the diameter of the Lovell tree.

## A Tree Grows in Lovell

Maine's tallest American chestnut tree, and America's tallest, is located on land belonging to the University of Maine Foundation. The tree may be about 100 years old. The only taller American chestnut is a 121-foot tall specimen in a Belgium arboretum.

Height is not the only measure of a champion tree; the diameter of the trunk and size of the crown are also factors. Maine's champion is still a tree in Atkinson, and the United States champion is in Multnomah County, Oregon, well outside the natural range of chestnut trees. Because of the chestnut blight, it is rare to find a tree this tall within the natural range of American chestnuts, which extends from Maine to Georgia and northern Mississippi.

## Meet Your Directors

### “The Dynamic Duo”

Glen and Ann Rea are both members of the Maine Board of TACF. They each bring different skills to the organization.



A native of Buffalo, Missouri, Glen holds a BA in economics from the University of Missouri, an MBA from Washington University in St. Louis, and a BS in forestry from the University of Maine. He is a veteran of the United States Navy and served four tours of duty to Vietnam. Until he retired in 2009, he worked 26 years as a stockbroker, but his resume also includes experience in marketing and supervision.

Glen is Chairman Emeritus of the National Board of The American Chestnut Foundation. Former President and CEO Bryan Burhans, Treasurer Steve Barilovitz, and others will be glad to tell you that Glen has taught them valuable lessons about how organizations work. (As a former church trustee and moderator, he enjoys explaining the origin of the term “slate” for a list of nominated officers.) Glen also treasures memories of Essie Burnsworth, Al Ellingboe, Phil Rutter, Fred Hebard, and many others who have contributed to TACF. The highlight of his term as TACF chairman was meeting Jimmy and Roslyn Carter and Chuck Leavell at the Carter Center in Atlanta.

Glen has managed breeding orchards at Veazie and Bradley from the time they were first planted and has also volunteered his time and expertise at the breeding orchards at Unity, Highmoor, and South China. Currently, Glen manages seed orchards at Huff Hill in Hartland and PCCA land in Stetson.

Glen met his wife Ann on the steps of the Ellis Library at the University of Missouri. This is appropriate, since Ann has spent much of her adult life working in libraries. Ann grew up in Rolla, Missouri, where her father taught chemistry at what was then the Missouri School of Mines, and in Oak Ridge, Tennessee.

After graduating from Mizzou, Ann received a Master’s in Library Science from the University of Southern California and worked at public libraries in Missouri and New Jersey before becoming director of the Beal College Library in Bangor. She has been active in library organizations in each of those states, and most recently served on the Maine Library Association Scholarship and Loan Committee and the Northeastern Maine Library District Advisory Board. Ann confesses that she is a bit of a “grammar Nazi” after teaching college English courses.

As libraries have become more dependent on computer technology, Ann has been able to use her growing computer skills on the Maine chapter’s newsletter and fund raising activities. She also serves as chairman of the Maine chapter’s Education and Publicity Committee and coordinates TACF exhibits at various locations in Maine.

Glen and Ann have two adult daughters and two priceless grandchildren.

## SILVICULTURE TRIALS IN MAINE

By Brian Roth

The Maine Chapter (METACF) has been hard at work employing a backcross breeding program to develop American chestnut seeds that are resistant to blight while maintaining American type characteristics. At some point in the future, the seed orchards that are currently being established in Maine will be producing nuts and the reintroduction phase of the restoration effort will begin. In order to successfully establish these trees, we need knowledge about which locations and planting techniques will be most conducive to success.

It has been almost 100 years since chestnut trees were present across the landscape. We have some recommendations from the literature and anecdotal evidence from personal connections with the past about the silvics of this species, but questions remain. For example, what are the best soil types and climates in Maine where chestnuts would do well? What is the best stock-type to plant (i.e. direct sowing, small seedlings or large bare root trees)? Will these small trees need to be protected from wildlife and competing vegetation early on? How much of the overstory should be removed in a stand in order to establish chestnut trees in the understory (clear-cut versus a shelterwood)? How well adapted are the backcross hybrid trees to the cold temperatures in Maine?

In order to gather information about these questions, the METACF has begun to establish a series of field trials in Maine. A planting stock-type comparison trial was established in 2014 in Steuben that is evaluating the field performance of seeds versus seedlings and bare root whips. We learned that the taller trees at the time of planting, grew the least in the first year, but were above the reach of browsing deer. A much larger field experiment will be established in the Spring of 2016 to further test these stock types, under all possible combinations of overstory removal (shelterwood versus clear-cut), with and without protection from animals, as well as with and without weed control. This study will be situated on two locations: the Dixmont Community Forest and the Black Forest Kliem Tree Farm in Greenville. Another study, to be established this spring, will independently examine the tradeoff between blight resistance and cold tolerance in Knox, ME (New England Forestry Foundation) and Vienna, ME (Small Woodland Owners Association of Maine). We can use your assistance with planting these studies; contact [brian.roth@maine.edu](mailto:brian.roth@maine.edu) if you would like to help out.

### Want to volunteer?

We need many volunteers to help plant trees in our seed orchards and silviculture trial orchards this spring.

Go to

<http://www.eepurl.com/bfD-s1>

to sign up on our MailChimp list.

Please volunteer to help us restore the American chestnut! We will notify you when there is a volunteer opportunity.

## American Chestnut Trees and Horse Chestnut Trees

Often, when we talk with people about American chestnut trees, they confuse them with the more common horse chestnut tree. Here is some help.

American chestnut seeds are true natives, but horse chestnuts were introduced from Europe.

The American chestnut has canoe shaped leaves with tooth shapes like the teeth of a saw along the edges (thus the name *castanea dentata*). The leaves alternate along a stem.



The horse chestnut has “palmate” leaves. Think of it as the five fingers spreading out from the palm of your hand.



There are other differences. The American chestnut blooms in July and its flowers droop, a bit like fringe on a chenille bedspread.



The horse chestnut blooms in June, and its flower stems point upright, like white candles.



American chestnut burs are very, very prickly and hold two to three seeds.



Horse chestnut conks or conkers each contain one large seed. You might remember throwing these at a girl!



Finally, American chestnuts are edible and tasty, but horse chestnuts are not. They may make you sick!

If you still are unsure whether your tree is an American chestnut or a horse chestnut, you can send a leaf sample to:

Kendra Collins  
New England Regional Science Coordinator  
Northern Research Station, US Forest Service  
705 Spear Street  
South Burlington, VT 05403

Learn more about American chestnuts at  
<http://www.acf.org>.

## Breeding Program Update

By Eric Evans

The current focus of our breeding program is to harvest seeds (B3-F2) from the most blight-resistant trees in our third-backcross (B3) orchards, and plant them in our seed orchards, which constitute the 5th generation of our 6-generation breeding program. After evaluation and selection for blight resistance and American type, the seed orchards will produce seeds (B3F3 - the 6th generation) for chestnut test and restoration plantings in Maine's forests, starting in about 2020. We have two parallel and separate programs, named for the 1st-backcross tree that was the source of blight resistance - Clapper and Graves (the breeders who made the original Chinese-American crosses). Each program has 20-24 breeding lines planted in our 3rd backcross orchards, and each is producing seeds for a system of 9 seed orchards.

**CLAPPER** - Last spring we planted 4650 B3-F2 chestnut seeds (31 plots of 150 per plot) from our Merryspring (Camden) and Highmoor (University of Maine Experiment Station, Monmouth) B3 orchards into our seed orchards. This June we made final selections of the most blight resistant trees in the three breeding lines in our Mosher (Hope) orchard and the two remaining lines in Highmoor orchard #4 (Monmouth). Our harvest from these trees in October provided enough seeds for planting 13 new plots in our Clapper seed orchards this spring.

Our October harvest totaled 9419 seeds from our Highmoor, Merryspring, and Mosher (Hope) orchards. This spring we will draw from these to establish 30 new plots of 150 seeds each in our Phippsburg, Searsport, and Stetson seed orchards. This will bring our total seed orchard plantings to 31,200 - well past the midpoint of our goal of 54,000 hybrid chestnut trees in our seed orchards by 2020.

**GRAVES** - The development of our Graves system is a little behind Clapper. In June we inoculated our Graves backcross orchards in Lovell and Morrill, and began the selection and culling process in our Veazie, Bradley, and Unity orchards that we inoculated last year. After we make final selections of the most blight-resistant trees there this June, we can collect B3F2 seeds for planting in our Graves seed orchards in Hartland and Winthrop in 2017. We will inoculate our youngest Graves backcross orchards in Unity and Hope in 2017, for planting the final new seed orchard plots in 2019-21.

We expect to begin inoculating our seed orchards in Hartland this year with live blight fungus, to begin evaluation of their blight resistance.

After selection and culling, we can collect B3F3 seeds for our first test plantings of potentially highly blight-resistant trees starting around 2020. This testing phase will continue for at least 10 years as the rest of our seed orchards go through the same process. We expect blight resistance to improve during that time, as the selections are refined based on initial testing results, and as more lines join the breeding population.

## Maple-glazed Pan-roasted Brussels Sprouts with Chestnuts

© 2014 Viviane Bauquet Farre. This recipe has been so popular with some of our board members, we have asked for permission to reprint it. Viviane rocks! More of her awesome recipes can be found at <http://foodandstyle.com/viviane/>.



Photo by Viviane Bauquet Farre

### Ingredients

1 tablespoon sea salt for the blanching water  
1 1/4 lbs (560 g) Brussels sprouts - trimmed and cut in half  
1 tablespoon unsalted butter  
3 tablespoons extra virgin olive oil  
1 tablespoon maple syrup (or brown sugar)  
4 oz. (115 g) vacuum-packed whole roasted chestnuts  
2 large shallots - skinned, quartered and finely sliced (1/2 cup)  
1/2 teaspoon sea salt  
freshly ground black pepper to taste

Step 1: Fill a large bowl with cold water and several ice cubes.

Step 2: Fill a medium pot with water and bring to a boil. Add the salt and blanch the Brussels sprouts for 3 1/2 to 4 minutes (depending on their size) until tender. Scoop them out with a slotted spoon and transfer to the ice water bath until cool. Drain on paper towels. Once dry, transfer to a bowl and set aside.

Cook's note: The Brussels sprouts can be blanched up to 1 day ahead. Refrigerate until ready to use.

Step 3: Heat a large heavy-bottomed skillet over high heat. Add the butter, olive oil and maple syrup, stir well. As soon as the butter is melted, add the Brussels sprouts and chestnuts and toss carefully with two wooden spoons (so as not to break the chestnuts) until the ingredients are well coated with the oil. Sauté for 6 to 7 minutes until golden-brown, tossing occasionally. Reduce heat to medium-high; add the shallots, salt and pepper and sauté for 1 to 2 minutes until shallots have softened. Transfer to a serving platter and serve immediately.

Serves 4

Active time: 30 minutes.

## Multi-Purpose Form -- Maine Chapter of The American Chestnut Foundation

Volunteering - We need your help! As our program grows, we very much need the assistance of our volunteers. Whether or not you have a particular talent or skill, we would like to hear from you.

I like the following kinds of tasks (circle all that apply):

Outdoor work, Working at events such as fairs, Giving formal presentations, Working with children, Writing, Fundraising, Organizing, Other \_\_\_\_\_

- I am available (circle all that apply): Weekdays Weekends On short notice Other \_\_\_\_\_
- I have experience/expertise in: \_\_\_\_\_

Membership -- Your membership is important to The American Chestnut Foundation. When you become a member, you express your commitment to our mission of restoring chestnuts to Maine forests. Membership in TACF includes subscriptions to its quarterly Journal of The American Chestnut Foundation, and membership in the Maine Chapter. Other benefits include discounts on Maine-native American chestnut seeds and seedlings and the opportunity to purchase blight-resistant seeds and seedlings when they become available. We offer 10 Maine-native seeds (not blight-resistant) with each new membership. Check below.

WHERE DOES YOUR FINANCIAL SUPPORT GO?

Your membership in TACF supports all the Foundation's breeding, research, education, and publicity projects. For TACF membership support levels of \$40 or more, \$15 is forwarded to the Maine Chapter. Please consider making an additional contribution to the Maine Chapter to support our mission to produce blight-resistant American chestnut trees most adaptable to Maine's forests, by indicating ME Chapter Sponsorship in the right-hand column below. Thank you.

TACF Membership \_\_\_\_\_ Regular, \$40 \_\_\_\_\_ Sponsor, \$300 \_\_\_\_\_ Annual Sponsor, \$500  
Make membership check to: TACF

Maine Chapter donation Amount \$ \_\_\_\_\_  
Make Maine sponsorship check to: Maine Chapter -TACF

Chestnut Seeds For Sale - These seeds are collected from wild Maine American chestnuts.

Circle one: 10 free seeds with new membership  
\$30 for 10 seeds  
\$50 for 25 seeds  
\$100 for 100 seeds

Circle one: Mail seeds to me March 15,  
...for growing seedlings  
Mail seeds to me April 15,  
...for seeding outdoors

Postage - please add \$5.00 for mailing seeds For seeds please write check to ME-TACF

Total payment for seeds enclosed: \_\_\_\_\_

Please PRINT CAREFULLY

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ Email address: \_\_\_\_\_

SEND this form to: Joseph Conwill, Treasurer ME Chapter, PO Box 829, Rangeley, ME 04970

## Coming Soon

March 11-13	Exhibit at Eastern Maine Sportsmen's Show, University of Maine Fieldhouse in Orono.
March 16	Maine Chapter Board meeting, Viles Arboretum, 5 pm.
April 8-9	National Spring Board Meeting, Meadowview, VA.
April 15-17	Exhibit at the Bangor Garden Show.
April 15	File your taxes, and then order wild seeds from the Maine Chapter.
Late April	Planting at the Phippsburg seed orchard (Date to be announced).
Early May	Planting at the seed orchards in Stetson and Searsport (Dates to be announced).

If you would like to help us at any of these events, please contact us. Every seed planted makes a difference, whether it is a chestnut seed placed in the ground, or a seed planted in a child's imagination.

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Maine Chapter, TACF  
231 Buck Street  
Bangor, ME 04401  
Return service requested

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