



September, 2016
Volume 19, Issue 2

TREE URCHIN

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

President's Message

By Al Faust

Greetings.

It has been a busy spring and summer for the Maine Chapter of TACF. We continued with planting of seed orchards around the state, roguing breeding orchards, and establishing test plantings.

We were assisted in these activities by staff and students from the University of Maine, Unity College, and the University of New England. We are pleased to have the help of these students and to give them an opportunity to apply their education. We are happy to be establishing another generation of chestnut lovers.



University of Maine students prepare to plant chestnut seeds at Clapper Greenhouse.



Inoculating Huff Hill trees.

Annual Meeting Notice

The 2016 annual meeting of the Maine Chapter will be held October 15 at Camp Mechuwana in Winthrop.

The business meeting will be held 9:00 to 10:00 am. After a break, a program will be presented from 10:15 to 11:00 am. Following the meeting will be a visit to the seed orchards in Winthrop that Peter Bohman is caring for.

The meeting agenda and directions to the Winthrop orchards will be distributed at the meeting.

Mechuwana, a United Methodist Church Camp, is located at 93 Holmes Road. Directions are available at:

www.mechuwana.org/directions.html

Our meeting will be in the memorial chapel, #11 on the web site's map.

Undergraduate Education and American Chestnut Restoration Research

In the near future The American Chestnut Foundation (TACF) will be producing and distributing large numbers of potentially blight resistant B3F3 nuts from chapter seed orchards including those in Maine. For a reintroduction program to be successful, information will be needed about what the best forest conditions and planting techniques are. For the past several years, the Maine Chapter of the TACF (METACF), led by board member Dr. Brian Roth at the University of Maine, has been establishing field trials on suitable sites around Maine aimed at addressing several relevant issues ahead of the reintroduction phase.

Nuts and seedlings that are planted into the forests of Maine will need to compete for light, water and nutrients with established trees, stump sprouts, brush, shrubs and other plants. How much overstory should be harvested before establishing a planting of restoration chestnuts? What type of seedling should be planted (direct seed, container seedling or bare root stock)? How should we protect young seedlings from animal and plant competition? Maine's research program should help answer these questions. This offers a unique opportunity to engage undergraduate students in education initiatives.

Dr. Roth has involved the University of Maine, University of New England, and Unity College in this extensive, on-going research project.

University of Maine

Dr. Amber Roth is an Assistant Professor of Forest Wildlife Management at the University of Maine and teaches an undergraduate course titled "Introduction to Wildlife Conservation". One of the course requirements is a student service learning project in partnership with a local conservation organization. "There is considerable value in having some hands on experiential learning built into the curriculum" states Amber Roth.

Of the many projects the students had to choose, over a dozen students wanted to work on projects with METACF. These students grew potentially blight resistant hybrid seedlings from seed in greenhouses at the University of Maine and then planted them in a series of designed field experiments. The experiments will test the performance of these seedlings in comparison with bare root seedlings and seeds, both with and without browse protection.

The plantings were done at the Black Forest demonstration area owned by Peter Kliem in Greenville, ME and a forest estate in Eastbrook, ME owned by Anders and Christina Höglund and managed by LandVest. A forester with LandVest, Sue Aygarn, stated, "The opportunity for undergraduate students to participate in applied research is a win-win situation for both the landowner and the students."
(continued on p. 3)





University of New England

Dr. Thomas Klak is a Professor in the Department of Environmental Studies at the University of New England. He teaches an Ecological Restoration class and contributes to a capstone course which is a requirement for graduating seniors.

This year four students in the capstone course chose to work with American chestnuts. One of the students, Sarah Fleischmann, explained her involvement this way: “We are trying to leave a legacy at UNE involving students, faculty and the campus community. This project is a true culmination of what I’ve learned on this campus -- the restoration of an important species, and working with important individuals from a variety of different fields and disciplines.”

Using the restoration questions identified by the TACF, the students designed the field trials, selected the planting locations on campus, organized a media event for the planting on Earth Day and followed up with data collection and study documentation. The chestnut research plantings will be available for future cohorts of students to work with as they develop. The students also designed a beautiful sign that describes the history of the American chestnut, efforts to restore the species and the research effort at UNE.

Unity College

Dr. Matthew Chatfield is an Associate Professor of Conservation Biology within the School of Biodiversity Conservation at Unity College in Unity, ME. He teaches two conservation biology classes which include lab work. Chatfield has been engaging “...Unity students about reintroduction and restoration, showing them that what they learn in the classroom can be applied in the real world”.

In addition to a lecture about the chestnut restoration effort, the students participated in sowing chestnut seeds in the greenhouse at the McKay Farm and Research Station for a cold tolerance/blight resistance field experiment. These were outplanted in two field experiments, one on land owned by the New England Forestry Foundation in Knox, ME and the other on the Small Woodland Owners Association of Maine in Vienna, ME.

Feedback from students was overwhelmingly positive, with many stating that “this was among their favorite parts of the course”. The collaboration between METACF and Unity College was featured on a local news station. Chatfield plans to incorporate the field experiments into future courses. “The partnership that we’ve formed holds enormous promise to continue engaging students that are eager for hands-on, authentic experiences. By monitoring these young trees in coming years, students we’ll be able to contribute to a scientifically meaningful project while helping to restore an iconic American tree.”

Learn more about The American Chestnut Foundation at:

<http://www.acf.org> and
<http://www.me-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 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.

Our harvest last October totaled 9419 seeds from our Highmoor, Merryspring, and Mosher (Hope) orchards. This spring we drew from these to establish 26 new plots of 150 seeds each in our Phippsburg, Searsport, and Stetson seed orchards. This brought our total seed orchard plantings to 30,600 – 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 last 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 in 2014. We made final selections of the most blight-resistant trees there this June, so now we can collect B3F2 seeds there this fall for planting in our Graves seed orchards in Hartland and Winthrop next spring. We will inoculate our youngest Graves backcross orchards in Unity and Hope in 2017-18, for planting the final new seed orchard plots in 2019-21.

Here is a summary of our seed orchard plantings:

Planting Year	Number of Plots Planted in Each Seed Orchard Location					
	Clapper Resistance		Graves Resistance		Searsport	
	Hartland	Winthrop	Phippsburg	TOTAL PLOTS		TOTAL SEEDS
Current Total	63	178	33	28	30	24
Planned for 2016	18	26,700	4	4	0	0
More Needed 2017-21	26	3900	19	3	8	70
	56	156	23,400			

This June we began evaluating the blight resistance of our seed orchard by inoculating about 1200 trees with lab-grown blight fungus. 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.

We give special thanks to all our orchard managers, and especially to our seed orchard managers – Glen Rea, Larry Totten, Bruce Probert, and Peter Bohman.

Sewall Grant Received

The Maine Chapter was notified this summer that it has received a grant from The Elmina B. Sewall Foundation.

The 2016 Integration of Environment and Human Well-Being Grant provides funding for the years 2016-2018. The \$36,000 grant will be used toward the cost of work in our seed and breeding orchards, including inoculation, seed collection, planting seeds, collection of leaf samples for testing, and maintaining orchards (fertilizing, pest control, fencing, etc.)

Primarily, this work will be done by paid interns under the supervision of chapter board members. The use of interns adds an additional dimension to the project, because it creates a work and learning experience for college students.

A native of Kennebunk, Elmina B. Sewall had a lifelong commitment to charity. She was especially interested in animal welfare, land conservation, and human well-being and these concerns remain central to the goals of the charitable trust she founded.

Our thanks to Bucky Owen for his work on the grant application.

Fryeburg Fair

If you plan to go to the Fryeburg Fair Oct. 2-9, look for the American Chestnut Foundation display.

Better yet, volunteer to help at our exhibit! Contact David Allen at (207)317-6760 or allendmm@aol.com to sign up. It's fun to meet many new people and introduce them to American Chestnuts. We have a great story to tell!

Want to volunteer? Go to Mail Chimp at <http://eepurl.com/bfD-s1> to sign up, or fill out the volunteer form in the Tree Urchin.

Mail Chimp is a free, easy way for us to notify volunteers when help is needed for planting seed orchards, inoculating trees, staffing exhibits, or other projects that require many helping hands. Please respond when you are contacted.

Good Reads

Mittelhauser, Glen H., et al. *The Plants of Baxter State Park*. Orono: University of Maine Press, 2016. A field guide to the 857 plant species documented in the park. Carry it in your backpack when you visit the Katahdin region.

Schmitt, Catherine. *The President's Salmon: Restoring the King of Fish and Its Home Waters*. Camden, ME: Down East Books, 2016. The story of the Penobscot River and its most iconic resident, the Atlantic salmon, from the end of the Ice Age to the beginning of the Penobscot River Restoration Trust.

Sterba, Jim. *Nature Wars: The Incredible Story of How Wildlife Comebacks Turned Backyards into Battlegrounds*. New York: Crown, 2012. Wild turkeys as a traffic hazard, black bears in your back yard, alligators in your swimming pool – the unintended consequences of wildlife restoration efforts.

As a retired librarian, the current Tree Urchin editor likes sharing books that TACF members might enjoy. If there are books you would like to share, contact mainetacf@gmail.com.

Membership Form

Maine Chapter of The American Chestnut Foundation

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 Restoration chestnut trees most adaptable to Maine's forests by selecting a Maine Chapter Sponsorship Level in the right-hand column below. Thank you.

Membership in TACF includes a subscription to The Journal of The American Chestnut Foundation and enrollment in the Maine Chapter.

TACF and ME-TACF are 501©3 non-profit organizations. Except for the member services (valued at \$15) of your membership dues, your gifts are tax deductible.

Please send this form and your check(s) to:

Joseph Conwill, Treasurer, PO Box 829, Rangeley, ME 04970.

For additional information, you may contact TACF at Mainetacf@gmail.com or 207.945.6945.

Your name _____

Mailing Address: _____

City/State/ZIP _____

Telephone _____

E-Mail _____

**JOIN The American
Chestnut Foundation
TACF Membership Support
Levels**

*Enclosed is my membership
support of:*

- _____ Silver Leaf Sponsor, \$1,000
 _____ Bronze Leaf Sponsor, \$500
 _____ Annual sponsor, \$300
 _____ Regular, \$40
 _____ Other, \$ _____

**Make membership check to:
TACF**

Maine Chapter Sponsorship Levels

*Enclosed is my contribution to the
Maine Chapter of TACF:*

- _____ Chestnut Sapling, \$5,000+
 _____ Chestnut Burr, \$1,000-4,999
 _____ Chestnut Blossom, \$100-999
 _____ Chestnut Leaf, \$1-100
 _____ Other \$ _____

(Any amount is welcome.)

**Make Maine sponsorship check to:
Maine Chapter -- TACF**

Christmas is coming!

All of us have a family member, friend, or co-worker who is difficult to shop for. He is the man who has everything, she does not want anyone to guess her size, or they are just darn picky. We have the perfect solution: give that person a membership in The American Chestnut Foundation!

<http://acf.donorshops.com/products/givethegiftofmembership.php> will guide you through this gift-giving process. It is a win-win! This solves your gift-giving dilemma and, at the same time, helps TACF's goal of restoring the American chestnut tree.

Your giftee will receive copies of the Chestnut Journal, updates on chapter efforts, and invitations to participate in TACF activities. Plus, you do not have to do the whole gift-wrapping, carrying-to-the-post-office thing. What's not to love?

And what's not to love about the perfect tree? Give us your support through your gift-giving and your volunteer efforts.

Maine Chapter, TACF
231 Buck Street
Bangor, ME 04401

Return service requested

