

## Spring Growers Meeting

Saturday, March 21, 2020

8:30 a.m. to 2:30 p.m.

Penn State Harrisburg

Cost: \$15 at door for lunch/coffee

Please RSVP by 3/19/2020

mail@patacf.org or 814-863-7192



8:30 – 9:15 AM	Coffee and Donuts
9:15 – 9:30 AM	Welcome: Mary Ayres, Pres.
9:30 – 10:30 AM	Marc McDill / Q & A
10:30 – 11:00 AM	Break
11:00 – 12:00 PM	Jason Delborne / Q & A
12:00 – 1:00 PM	Lunch (Please RSVP)
1:00 – 2:00 PM	Jared Westbrook / Q & A
2:00 – 2:30 PM	Nut Distribution

**Join us for the 2020 Spring Growers Meeting.** Come to learn and to socialize with chestnut growers and experts. There will be educational presentations and lunch. Pure American seed nuts will be distributed. This meeting is **free and open to the public** but please **RSVP**.

**New Venue:** Penn State Harrisburg in the Education Activities Building (EAB) North, located on College Ave. Check out the interactive campus map shown above at: <https://harrisburg.psu.edu/map>

Parking in south parking lot next to EAB South – just off College Ave. For directions to the campus: [Google Map](#) (40.202465, -76.743470)

## Featured Speakers



**Marc McDill**  
Associate Professor of Forest Management,  
Penn State University

Climate Change and  
Pennsylvania's Forests



**Jason Delborne,**  
Associate Professor of Science,  
Policy & Society, North Carolina  
State University

Forest Health and Biotechnology:  
Possibilities and Considerations



**Jared Westbrook**  
Director of Science, The American  
Chestnut Foundation

The Evolving Effort to Restore  
the American chestnut

## President's Corner



Dear Members,

I attended the TACF Annual Meeting in Gettysburg this past October. This was my first opportunity to attend a National meeting and I thought it was terrific. In addition to learning about the latest science on blight resistance, I met many interesting members from the PA/NJ and other Chapters. The net effect was to get totally re-energized about our mission. I am humbled and grateful to be part of such a dynamic organization.

Our PA/NJ Chapter was well-represented at the Gettysburg meeting, with almost 60 members attending. We had an attractive table with our educational display, as well as T-shirts and other merchandise for sale. We featured both long and short sleeve T-shirts with an attractive wood-block design of American chestnut leaves and bur. Almost all PA/NJ members demonstrated our chapter spirit by wearing the T-shirt on Saturday—a notable visual presence among the 250 attendees. By the end of the meeting, our gross merchandise sales totaled over \$1,500, which is quite a haul. Special thanks go to Louise Aucott, Betsy Murtha, Tracy Coulter, Peter Reinhart and Jean Najjar for planning our chapter presence. I also want to thank Louise, Betsy, Steven Hoy, Jack Kerr, Lake Grabowski, and Ron Farr for manning the table (with apologies to anyone who I may have omitted).

Another way we showcased our chapter spirit at the Gettysburg meeting, was through a “thank you” give away of 60 wild-type American chestnut seedlings. The seedlings were snapped up. We positioned a jar for “thank you” donations near the seedlings, which netted almost \$350 for our chapter. Thanks go to Jim Searing for coming up with the idea, and to Steve Hoy who executed it, including growing the seedlings, transporting them to the meeting, and supervising the give-away.

The annual meeting next year is in Asheville, NC on October 2-3, 2020. The mountains of North Carolina are beautiful at that time of year – so something to think about putting on your calendar.

In 2020, we have a robust schedule of outreach events, for which we depend on volunteers. With the 50<sup>th</sup> anniversary of Earth Day this year, and growing need for immediate action to address climate change, if you feel the urge to take action, consider volunteering at one of our outreach events. Volunteering is fun and easy, and we have many ways to support new volunteers including pairing with experienced outreach volunteers. Contact Jean at the office to sign up or if you have any questions.

Lastly, many thanks to our many members who so generously contribute financially to our chapter to support our outreach and orchards. Our volunteer Treasurer, Peter Reinhart, reports that thanks to the donations from our members, our accounts are in good order. Hope to see you at the Spring Grower's Meeting!

Mary Ayres  
President 2019-2020

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James Walizer

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### Non-Voting Members

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#### US-ACE Representative

Jeff Krause

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### Staff

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(814)863-7192



## Chapter News

### Remembering Members Lost in 2019

by Jean Najjar

*We take a moment here to recall members lost since our last newsletter: George M. Busch, Bruce Heindel, and Harvey West, as well as two dedicated founding members, each of whom nurtured our restoration mission for over two decades.*

A framed photo of Ann and Bob Leffel looks down at me as I write this remembrance, here in 206 Forest Resources Lab at University Park. The Leffel Center was opened here at Penn State in the Fall of



2006, in honor of their leadership, scientific guidance, and dedication to restore the American chestnut to our forests. Members since 1994, I only met the Leffels briefly at our 2016 Spring Growers Meeting, but their legacy is apparent in the archives of our newsletter and the chapter records in our metal file cabinet. They played an instrumental role in building the membership of the PA Chapter, rallying folks from around the state to join our restoration mission and helping us to become the largest Chapter in TACF.

William “Bill” Lord was a generous supporter and dedicated leader. I had the opportunity to interview Bill for our newsletter in 2014. He shared some basics about how he experienced the loss of the American chestnut on his family farm in Canada. And how that experience came back to him



when he learned about the TACF restoration efforts in a news article, motivating him to get involved when he retired. He shared that he spent many springs volunteering at Meadowview Orchard and supported the development of the PA Chapter but didn't mention that he helped to write a history of TACF, that as a naturalist he wrote the

Blue Ridge Parkway Guide and donated the royalties to TACF, or that he served on the TACF Board.

There is probably much that I will never know about the ways these two lovely individuals supported our restoration

mission. Their service was never about recognition, it was all for the love of a nut tree. We are grateful for the generous support and pioneering work of Ann Leffel and Bill Lord.

### Volunteers on our Board of Directors Provide Leadership and Continuity. Maybe you could lend a hand!

We welcome Mike Aucott and Lake Graboski as the newest members of the Board of Directors. And we welcome back Ron Farr, Rick Hartieb, and John Wenderoth who have renewed their commitment to the Board.

**All of what we do depends on strong leadership from members like you, on our Board and Advisory Committees.** We owe a great deal to these volunteers. They guide our work in a variety of areas including, operations, outreach, and science. They provide expertise and guidance in addition to being some of our



Mike Aucott



Lake Graboski

greatest advocates. Board Members commit to a two year term and should be able to make twice yearly trips to board meetings in Harrisburg. These meetings are usually in August and February and are scheduled by poll. If you would like to learn more about joining our leadership please call or email our office. Staff can answer your questions and put you in touch with current Board members to share their experience —[mail@patacf.org](mailto:mail@patacf.org) or call the office at (814) 863-7192.

## ***Ecological studies on the amount of American chestnut genome and/or traits necessary for restoration*** By Sara Fern Fitzsimmons

What makes an American chestnut, an American chestnut? When TACF first embarked on the backcross breeding program in the 1980s, the hypothesis followed plant breeding theory which suggests ~94% of a recurrent parent's genome would be transferred by the third backcross. Is this percentage enough for restoration?

Taking up the mantle of the organization's scientific direction in 2015, TACF's Director of Science, Jared Westbrook implemented genomic studies of the Foundation's breeding materials at Meadowview Research Farms. Through multiple years of study, and then outlined in Westbrook et al (2019), there does appear to be a tradeoff in the backcross breeding program between amount of blight-resistance and amount of American chestnut genome.

While there are a few exceptions in the program, as a general rule, if a backcross tree is found to have >95% American genome, it will have little to no blight-resistance. Conversely, BC3Fx trees with the highest blight-tolerance have the least American genome. Therefore, TACF continues to wrestle with the question: How much American genome and blight-resistance are necessary to restore ecological functionality in a hybrid product? In this article, I will focus on "Americanness".

When faced with the question about tree ecology and function, many first point to growth characteristics. In the early 2000s, Chapter members and driving forces for scientific change, Dr. Bob Leffel and Dave Armstrong, embarked on a new breeding strategy called the Recurrent Selection Timber (RST). The RST program is not concerned with American type traits, but instead focuses on timber form and growth. Some of those traits, such as height, can take decades to realize, while others can be measured in a shorter time frame.

Yet, there may be important ecosystem functions performed by American chestnuts not equaled by other species not native to the US. What are those ser-

vices, how do we measure them, and at what point do they return to a given hybrid tree?

In his seminal book, *Bringing Nature Home*, Doug Tallamy outlines the importance of native plants to the ecology of a given area. As an entomologist, Dr. Tallamy focuses on the population of native insect species feeding on native plants vs. exotic plants, finding 96%

of songbirds rear their young on insects. Native plants can host 2x as many Lepidoptera spp than non-native plants (Tallamy, 2009).

Researchers at SUNY-ESF have performed and continue to perform ecological studies comparing the function of a transgenic American chestnut to wild or hybridized counterparts (<https://www.esf.edu/chestnut/poster.htm>). These studies include caterpillar feeding with leaves, bee feeding with pollen, and tadpole feeding with leaf litter. To determine how much American genome is required to serve those functions, that type of work should be replicated and supplemented with various levels of hybrids.

An additional study would include 2-5 families within various levels of backcross, including American, Chinese, and Japanese chestnut controls, planted at two or more locations, where insect feeding and capture are measured and compared. We need growers

interested in establishing and maintain this type of research plot, and TACF encourage partnerships with entomologists and others who can facilitate such work.

### **FIND OUT MORE BEFORE AND AT THE CHAPTER SPRING MEETING**

To find out more about these various issues, and to participate in data collection and the discussion, the Chapter invites you to two upcoming events. First, Dr. Jared Westbrook will be speaking at the Chapter meeting on **Saturday, March 21**, detailing what is now known about TACF's breeding program.

Ahead of the meeting on **Friday, March 20**, join me, Jared and others at the Codorus RST plantings to take form and



*Continued on page 5*



## *Penn State Research Orchard Update* By Stephen Hoy

**2019** was another productive year in the Arboretum @ Penn State chestnut orchards. With a small group of volunteers over 500 seedlings were planted, 1,650 trees inoculated with SG2,3, hundreds of trees were rated, rogued, and piled for a winter bonfire. We also harvested 10,000 chestnuts from 61 individual trees. There is still a lot to be done in the next few years as we complete planting operations in the Seed Orchard portions and convert the third section into a germplasm conservation orchard.

Most of the orchard work is focused on the interior but we cannot forget about what surrounds the orchards. The arboretum orchards are bordered by very large oak, pine, hickory, and cherry trees. At some point every year a day of routine mowing in the orchards has become an afternoon of debris removal and fence repair.

More recently several large oak trees have died or been uprooted in storms flattening sections of fence and creating entry points for deer, fox, coyotes, and other animals. The deer have enjoyed easy access to a

chestnut tree buffet browsing tree leaders and branch tips, bedding in the protection of the plots of trees and knocking tree tubes off newly planted seedlings.

Bash Contracting, a long-time supporter of the PA/NJ Chapter, was able to make repairs to the fences, replace broken posts, and patch numerous holes in the fence. While the folks from Bash were on-site,



*Deer fencing damage in Arboretum chestnut orchard, caused when a 30" diameter red oak fell. Winter 2018/2019.*

we took the opportunity to remove 4 other large dead trees expected to fall into the orchard. If you're wondering what happens to all the wood, it will be used by the PSU Woodsmen Team as a firewood

fundraiser.

As the orchards progress towards full planting we'll continue to need motivated volunteers to help with activities. For the 2020 field season there will be several volunteer events starting with our annual Arboretum Planting day on May 15<sup>th</sup>. For the fourth consecutive year we will be using the Small Stem Assay (SSA) method to verify the resistance levels of the offspring from

trees in the seed orchards. This information will be used to confirm selected trees to remain in the orchards or remove poor performing lines. In 2020, we plan to inoculate 2,660 seedlings beginning on June 1<sup>st</sup> through June 3<sup>rd</sup>. Once these inoculations are complete, we will be moving to the arboretum orchards to continue the process on larger seedlings. Volunteers for the week of June 1-5 will be essential to accomplishing the 5,000

inoculations.

*If you would like more information on these events or plan to volunteer, please contact Hoy at [sdh177@psu.edu](mailto:sdh177@psu.edu) or (814) 424-0022.*

*Continued from page 5* growth data on the F1 and F2 populations planted there. Many thanks to Mike Aucott and Jay Brenneman who have taken on management of the RST program and Codorus orchards from Dave Armstrong.

### REFERENCES

Tallamy, D.W. (2009). Bringing Nature Home: How You Can Sustain Wildlife with Native Plants. Timber Press, Portland, OR, USA.

Westbrook, J.W., Zhang, Q., Mandal, M.K., Jenkins, E.V., Barth, L.E., Jenkins, J.W., Grimwood, J., Schmutz, J., Holliday, J.A. (2019). Genomic selection analyses reveal tradeoff between chestnut blight tolerance and genome inheritance from American chestnut (*Castanea dentata*) in (*C. dentata* x *C. mollissima*) x *C. dentata* backcross hybrids. *BioRxiv*. <https://www.biorxiv.org/content/10.1101/690693v1>



## Chapter News

### Members Make a Difference

Drum roll please....

#### The PA/NJ Chapter raised \$23,369!

Fundraising efforts were spurred on by a \$10,000 matching challenge put forth by the PA/NJ Chapter Board of Directors. Many thanks to our Board of Directors, and all of our generous members and supporters who helped us exceed our fundraising goals.



This matching challenge came about to ensure continuity in our orchard research as the Board actively works to establish a sustainable long-term funding source.

### Volunteers Roll up their sleeves at the PA Farm Show & Penn State Greenhouse

#### PA Farm Show

Chapter volunteers kick off our 2020 outreach at the PA Farm Show in Harrisburg. This 8 day event runs from January 4<sup>th</sup> to 11<sup>th</sup>, with days that start at 9:00 am and closes at 9:00 pm. There is no way we could participate without the help of many dedicated support-

Beverly Auvil	Marlin Graham	Gerry Lute
Mary Ayres	Rick Hartlieb	Don McCann
John Civitts	Fred Heagy	Alisha Nailor
Tracey Coulter	Alvin Jackson	Ray Najjar
Merv Feathers	Jack Kerr	Peter Reinhart
Caden Feathers	Karthryn Kerr	Gary Weaver
Tim Eck	Margot Kimmick	Art Williams
Mary Gelenser	William Kimmick	Kathy Williams



#### Greenhouse Growing Days



#### Growing Days

Volunteers helped to start over 4,000 seedlings here at Penn State. Many thanks to:

Brosi Bradley  
Jay Brenneman  
Mac Heebner III  
Ralph Mooma  
Larry Ragan  
Steve Johnstonbaugh  
Mick Saravitz  
Carol Saravitz

# Chapter News

## 2020 Communications Survey — Your Feedback is Important!

For the past 25 years, we have been sending a print newsletter, *The Chestnut Tree*, to members and supporters each Spring and Fall. These newsletters contain Chapter news about members and events, updates on research, and other related articles. It's been a valuable tool for keeping members informed and we have also distributed extra copies at outreach events around the state to engage the public. We want to make sure that our use of funds for mailing a print newsletter were an efficient use of funds.

Since founding member, Ann Leffel edited the first newsletter in 1995, we have added a number of other communication tools including a PA Chapter listserv and Facebook page. We have even dipped our toes in Instagram and Twitter. At the end of 2018, we started sending out a monthly e-Newsletter similar to the TACF's e-Sprout but focused on information for the PA/NJ Chapter. All of these

modes of communication are useful and reach different segments of our membership.

In consideration of our limited resources and the potential to save on mailing costs, we will be evaluating all of our current communication practices, starting with a review of our print newsletter and monthly e-Newsletter. Note: A significant minority of our membership does not use email. We expect to continue to produce a print newsletter to reach this segment of our membership.

**Member Input:** You can help by providing feedback. We have set up an online survey on our website with 5 short questions. It shouldn't take more than 5 minutes to complete.

Copy this URL into your computer:

<https://patacf.org/2020-communications-survey/>

If you prefer to give your answers in writing, please contact Jean in our office by calling (814)863-7192. She'll provide a paper form.



## 2020 Chestnut Restoration Raffle — Tickets are \$2 each or 6 for \$10.

We kicked off a special fundraising raffle with donated hand-crafted American chestnut prizes, at the **PA Farm Show this past month**. Three winners will be drawn on Saturday, March 21st at our Spring Growers Meeting. Winners do not have to be present to win.



American chestnut electric guitar handcrafted by Douglas Brownell



American Chestnut bowl handcrafted by Jim Finley



American chestnut funerary urn handcrafted by Chris Ditlow

Purchase tickets at our **Spring Growers Meeting** or call Jean at the office (814) 863-9172. She can assist you in getting tickets before the drawing.





## The Chestnut Newsletter

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### Pennsylvania Chapter

#### The American Chestnut Foundation

206 Forest Resources Lab  
University Park, PA 16802  
mail@patacf.org  
Phone: 814-863-7192

### RETURN SERVICE REQUESTED

#### SOME IMPORTANT DATES

**March 21<sup>th</sup> — Spring Growers Meeting**  
Harrisburg, PA

**April 25<sup>th</sup> — Lancaster Native Plant & Wildlife Festival**  
Lancaster PA

**May 2<sup>nd</sup> — Central PA Native Plant Festival and Sale**  
Boalsburg, PA

**June 7-9<sup>th</sup> — Chestnut Growers of America**  
University Park, PA

**August 1-2<sup>th</sup> — Festival of Wood at Grey Towers**  
Milford, PA

**August 11-13<sup>th</sup> — PSU Ag Progress Days**  
Pennsylvania Furnace, PA

**September 12-13<sup>th</sup> — New Jersey WILD Outdoor Expo**  
New Egypt, NJ

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*Visit our website for updates and more information  
about these and other activities of the PA/NJ Chapter.*

[www.patacf.org](http://www.patacf.org)

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of NPC through their pro bono printing of this newsletter.  
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