



The West Virginia Chapter of The American Chestnut Foundation NEWSLETTER



In the heart of American chestnut's natural range

April 2023

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Getting Chestnuts Ready for Spring

In addition to mailing chestnuts to several members in early March, a group of volunteers gathered at the West Virginia University greenhouse on March 11 to pot chestnuts in D40 pots. Those assisting were: **Blaise Hollot, Bernie and Linda Coyle, Mark, Mindy and Sara Double**. We pre-labeled all the tubes, so it took only 2 hours to pot up 500 nuts. This is the chapter's first experience using D40 pots. The 4" pots that we have used for years did not allow the chestnut taproot to develop properly, so we made the switch to the 9"-deep D40 pots. Seedlings also are being grown at Shepherd University, Potomac State College and by **Dr. Lewis Cook**, WV-TACF board of directors member in Fayetteville. **Susan Thompson** is spearheading the work in Shepherdstown. We potted native American, backcross, European, Chinese chestnuts and some Chinquapins (*Castanea pumila*). Distribution of seedlings will commence in May.



Bernie and Linda Coyle from Keyser pot chestnuts in Morgantown.



Radicles of Chinese chestnut in D40 pots prior to topping with soil.



WVU potting group display chestnuts successfully potted.

A few of the students at Potomac State in Keyser are pictured below potting chestnuts. The advantage of having several greenhouses in West Virginia is that our members will not have to travel to Morgantown to pick up seedlings in May.



Potting Chestnuts at Central Preston Middle School

Robert Sypolt assisted **Nikke Seese's** science classes at Central Preston Middle School to pot chestnuts this spring. Ms. Seese is the sponsor of the school's FFA group. Together, 79 students participated in the potting exercise. Some of the students are pictured below.



Replanting at Old Hemlock

Last year, 30 American chestnut seedlings were planted in a clearcut at Old Hemlock in Preston County. One of the missions of the Old Hemlock Foundation is to *preserve conservation and protection of natural resources*. This mission fits perfectly with the planting of a germplasm conservation orchard on the property. Logging roads were installed during the clearcut and 15 American chestnut seedlings were planted to both sides of a road. Interestingly, all the trees on the lower section died. Rather than plant seedlings in 2023, nuts were direct seeded into 36" tree shelters. The wire cages from the seedlings that died were moved and placed around the tree shelters. **Dr. Amy Hill**, retired from the U.S. Forest Service volunteers to water the seedlings as needed.



Amy Metheny, Mark Double, LeJay Graffious and Amy Hill.



Rocky area of the chestnut planting at Old Hemlock.

WV Chapter Documentary Film

The American Chestnut Foundation was originally incorporated in 1983. Thus, 2023 marks the **40th anniversary** of the organization. Normally, there would be much to celebrate at an annual meeting of TACF, but there are no plans for a national celebration. Since **Lisa Thomson**, TACF's President and CEO, is stepping down this year, Lisa does not want to saddle her replacement with the task of arranging a celebratory meeting. Also, annual meetings are expensive requiring lodging, gasoline, meals and registration costs. It was felt that celebrations at the state level may allow more members to participate. Each chapter is permitted to celebrate in any way they choose.



Mindy Double (wife of the newsletter editor) came up with the idea of interviewing older individuals who have some recollection of American chestnut during the pandemic or its aftermath. To that end, an email was sent out last fall asking if members knew anyone who might fit the bill. We ended up with four volunteers, three in West Virginia (**Tom Radabaugh** of Reedsville, **James Kochenderfer** from Hambleton and **Katie Wolfe** of Rowlesburg) and **Barbara Knapp** from Maryland.

The next step was to find a way to document the memories of these four individuals. Enter, **Robert Tinnell**, a documentary filmmaker from Morgantown. Robert teaches documentary filmmaking at Douglass Education Center in Monessen, PA. Robert enthusiastically volunteered his expertise, by offering his students to assist with the documentary film. On March 28, the three West Virginia interviews took place, and Barbara Knapp was interviewed on March 31. Since there were nine students, Robert split them into two groups so that they could all participate in this exercise. Five worked on the WV interviews, and the other four conducted the Maryland interview.

Now that all the footage has been collected, the students

will have to determine what is worthy of including and what is not. Sound and captions will have to be added and a script written. Robert Tinnell's goal is to have a completed film by June 1, as the students have other projects in which they are involved.

The WV chapter plans to use the completed film at the Rowlesburg Chestnut Festival on October 9 as part our celebration of TACF's 40th anniversary. This film is no way in competition with TACF's documentary film that debuts on Earth Day 2023. TACF's film includes notable individuals like Dolly Parton who has planted American chestnuts at Dollywood in Tennessee. The purpose of the WV chapter film is to archive memories of the iconic American chestnut from those individuals who remember the trees. This film is a win-win. The film students not only will learn about the plight of American chestnut and our goals for restoration, but they will gain valuable experience in putting together a documentary film that can be added to their resume. And the WV chapter will have a wonderful film that will showcase memories of this historic tree.

The documentary film is a very exciting project, and the WV chapter cannot thank Robert and his student enough for their willingness to assist in this film.



Filming at James Kochenderfer's home



Interviewing Jeff Kochenderfer at his orchard in Parsons



Students on the WV film crew



Interviewing Robert Sybolt at the Waddell orchard in Kingwood



Filming at Tom Radabaugh's home



Interviewing Shirley Hartley about the Rowlesburg Chestnut Festival



Barbara Knapp showing off American chestnuts at her home



Students on the Maryland film crew



Director Robert Tinnell inspecting 1880s Rowlesburg home with American chestnut beams.



Filming Barbara Knapp at her home in Germantown, Maryland

Planting Chestnuts on WV State Forests

With the assistance of **Travis Miller**, Assistant Director of the WV Division of Forestry, American chestnut was direct-seeded at three WV State Forests: Calvin Price, Greenbrier and Seneca. For each state forest, the WV chapter supplied ninety 36" tree shelters, 48" steel rebar and ten 5' tree shelters with 5' white oak stakes. We realize that not every nut that was planted will develop into a seedling. We also realize that those seedlings that do develop and grow will be nipped off at 36" by deer browse. It is our plan to cage the seedlings that begin to emerge from the tree shelters with wire cages

in 2024. Below are pictures of the planting at Secneca State Forest.



The 5' tree shelter is in the foreground.



The three WV State Forests offer great sites for chestnut.

Notes from TACF's Spring Meeting

The annual spring meeting of TACF was held in Abingdon, VA on 23 March 2023. Some of the highlights from the meeting are as follows:

Jared Westbrook, Director of Science. Jared stated that through TACF's 40 years of breeding, 99% of the germplasm of American chestnut has been captured through the backcross breeding program. Common garden studies (same plants planted at different locations) point to the need for regional adaptability. While American chestnuts from Georgia will grow in Vermont, the southern trees are very susceptible to winter injury.

Westbrook is continuing to cross wild-type American chestnut trees with 'Darling 58'. The offspring of these crosses will have a high degree of resistance to the chestnut blight fungus, but there is uncertainty relative to: stress sensitivity, public resistance to Genetically Modified Organisms, and these trees will not be resistant to *Phytophthora*. Dual resistance studies also are ongoing and these trees will be resistant to both the chestnut blight fungus and *Phytophthora*.

Also, there is work on establishing seed orchards around the eastern U.S. Ideally the goal is to have 7-10 seed orchards to grow transgenic trees. Currently, there is sufficient 'Darling 58' pollen stored to pollinate 200,000 female flowers. There are 99 orchards within TACF that have native American chestnut orchards that are more than 7 years old (22 orchards in the Northeast; 72 in central U.S. and 5 in the south).

Another goal is to continue to make rapid gains in blight resistance within the traditional breeding program. The approach is to cross the Best X Best and then use DNA to select the absolute most resistant trees.

Resistance to *Phytophthora* is simpler than chestnut blight, but it is still complex.

Andy Newhouse, State University of New York. Andy provided an update on the Federal regulatory agencies overseeing the deregulation of 'Darling 58'. The three agencies are: USDA-APHIS; EPA; and FDA.

All three agencies believe a decision to deregulate 'Darling 58' will be made in 2023, but whether or not the decision is prior to pollination season (June) is unknown. Andy provided data that the 'Darling 58' trees are performing very well after inoculations with the chestnut blight fungus. He also pointed out that 'Darling 58' is not the end-all-be-all. Better constructs will be developed in the future that will be better than 'Darling 58'. The hope is to use the enormous amount of information gained with American chestnut to aid in restoration of other tree species (beech, elm, etc).

Vasiliy Lakoba, Meadowview Research Director.

Vasiliy gave an overview of the activities at Meadowview. Currently, roguing of the Price Farm is underway to make more room for planting. Following is a brief summary from Meadowview:

- Fungicide Trials--results are poor.
- Drones--they are using inexpensive commercial drones to see if they can identify flowering American chestnuts in the wild.
- Pollination Window X OXO inheritance--how long is the pollination window when using OXO pollen? Can we determine an ideal date?
- Seed Core Timing--cores from nuts are being evaluated to determine the best time to ascertain if the OXO gene is present.
- Trellising--can American chestnut be trellised for top workers? If they can produce a trellised tree, no pollination ladders will be required. This will greatly decrease the chances for accidents.
- Potting Media--some OXO trees died in the greenhouse last year. Is there a potting mix problem? Experiments are underway to determine if potting mix is an issue.

The hope is to have a new greenhouse at Meadowview, based on the success of TACF's spring appeal. They need a shade house as the trees get too hot during the summer months. A new facility will allow the greenhouse staff to keep trees growing all year long. They hope to have a high-light room in part of the proposed greenhouse to facilitate in producing 'Darling 58' pollen. Vasiliy is looking at several greenhouse companies.

They are using the Duncan farm to capture 99% of native American diversity. The spacing of trees is being changed to 40' X 15' to allow space for more

tree growth.

John Scrivani, Restoration Committee. John's committee is looking at seed orchard locations to increase production of chestnut seedlings. They are also looking at facilities that can test seeds for the OXO gene. Currently, testing is a bottleneck.

Can we generate 1 million transgenic seeds? Ten-year-old trees can produce about 340 seeds/year. Using the data from **Stacy Clark** (U.S. Forest Service, Knoxville, TN), we can learn a lot about the growth habit of TACF's advance backcross trees (B3F3s). Stacy has been growing B3F3 trees in the forest since 2008.

John reported on John's Creek in the Jefferson National Forest. They have 1,000 B3F3 trees growing at this site that is being used to assess silvicultural aspects. This site was planted in an area that had high gypsy moth defoliation, and no fencing was used. There has been little-to-no maintenance and the B3F3 trees are outcompeting the native American chestnuts as the latter die.

Jules Smith, Director of Communications. Jules provided an update on TACF's Documentary film that has been in production since 2016. The film's unveiling is scheduled for Earth Day at the North Carolina Arboretum in Asheville, NC. The working title is: ***Clear Day Thunder, Restoring American Chestnut***. Long-time TACF board member and supporter of TACF, **Brad Stanback** came up with Clear Day Thunder. If a large surviving American chestnut fell in the forest as it succumbed to the ravages of the chestnut blight fungus, it would sound like thunder on a clear day.

Jules also stated that the company, **Blue Ion** is working on a new logo and branding for TACF. With a fresh new look, it is hoped that more people will view TACF and become involved. What is a brand? A brand is the story someone tells about your product or service. The new logo will appear on TACF's documentary film. The new logo will be shared in the next WV chapter newsletter.

Blue Ion also is working on logos for all 16 state chapters. They will be unveiled at a date yet to be determined.

Jules created the logo for TACF's 40th anniversary, as seen on Page 3.

Two new Regional Outreach Coordinators have been hired to assist state chapters. The individual assigned to WV is **Christine Martini**. She is based in Albany, NY.