



FOX HAVEN ORCHARD BURS WAITING FOR A SEPTEMBER HARVEST

# The American Chestnut Foundation Maryland Chapter Newsletter SUMMER 2016

IN THIS ISSUE

## Fall Harvest - Almost Here

By Dave Gill

One of the more enjoyable Chapter events is just around the corner. Harvest of the nuts that we will be planting next spring or sharing with various research groups usually occurs around the middle to late September.

As always, we need as many willing hands as possible. If you don't like ladders we have long handled apple pickers that can be used from the ground so everyone can get involved.

The locations we will be harvesting from this year will be:

**Monocacy Orchard** in Dickerson, MD

**Fox Haven Orchard** in Jefferson, MD

**Dickey Orchard** in Davidsonville, MD

**WSSC Orchard** in Sunshine, MD

**Schriener Grove** in Hagerstown, MD

**WMREC Grove** in Keedysville, MD

If you think you would like to join the fun, contact Ron Kuipers at [m\\_rkuipers@yahoo.com](mailto:m_rkuipers@yahoo.com) or [MDTACF@Outlook.com](mailto:MDTACF@Outlook.com) and we will put you on the orchard volunteers' mailing list.

The chestnut burs await your gentle touch.

## Board Updates

The Board met on June 12<sup>th</sup>. Here are the highlights of the meeting.

- Date of Annual meeting was adjusted to October 15<sup>th</sup>.
- Finance audit report was presented with minor adjustments to procedures on income and expenses.

- [Fall Harvest is almost here](#)
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- A discussion was held about lower than expected germination rates at WSSC and CMREC. Pending further discussion.
- Nominating committee formed for officer and board positions

## October Annual Chapter Meeting

Chapter Annual Meeting will be held on October 15<sup>th</sup> at 11:00 AM at the Urbana Library in Urbana, MD. The meeting will be held in

THE ANTHONY NATELLI COMMUNITY ROOM.

9020 Amelung Street  
Frederick, MD 21704

<http://www.fcpl.org/branches-hours/urbana-regional-library>

The agenda will include:

- A. Election of Officers and Board Members
- B. Vote on Amended By-Laws
- C. Treasurer's Report
- D. Orchard Committee Report
- E. Guest speaker

A **nominating committee** has been formed for the elections at the annual meeting. The committee members are: Ron Kuipers ([m\\_rkuipers@yahoo.com](mailto:m_rkuipers@yahoo.com)), Bruce Levine ([brujonlev@yahoo.com](mailto:brujonlev@yahoo.com)) and Andrew Ralowicz. If you have an interest in becoming either an officer or board member, please contact any of the nominating committee members to be included in the nomination process.

Our guest speaker for the annual Chapter meeting is:

### Dr. Donald Nuss

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**Professor and Founding Director of Institute for Bioscience and Biotechnology Research, University of Maryland.**

#### Education:

- PhD, Biochemistry, University of New Hampshire

#### Background:

Dr. Nuss's laboratory has been studying a family of mycoviruses, the hypoviruses that attenuate virulence of the chestnut blight fungus, *Cryphonectria parasitica*. The hypovirus/*C. parasitica* system is one of the very few eucaryotic systems for which both a virus and its host can be genetically manipulated with ease. A very robust DNA transformation system is available for *C. parasitica* allowing disruption, silencing or over-expression of fungal genes. The lab has constructed infectious cDNA clones of two hypovirus RNA genomes, CHV1-EP713 and CHV1, Euro7, providing the only viral reverse genetics system for the entire Kingdom Fungi. This development has allowed the construction of "engineered" hypoviruses with enhanced biocontrol potential and the extension of virus host range to include several other pathogenic fungi. We hope you make time in your schedule to attend this meeting and hear first-hand about developments in Dr. Nuss's lab.

## Retrospect on Spring Plantings

By Bruce Levine

Don't count your chickens until they hatch emerge.

In our last newsletter, we proudly reported on our record-setting March/April planting of 3,900 nuts in our seed orchards at CMREC and WSSC. After a great start, though, we discovered that inadequate supervision of our volunteer planters (many nuts were planted far too deep),

combined with about 20 consecutive days of rain, and possibly some contamination of our nuts while they were in storage resulted in far fewer trees than we expected. A follow-up report is in order.

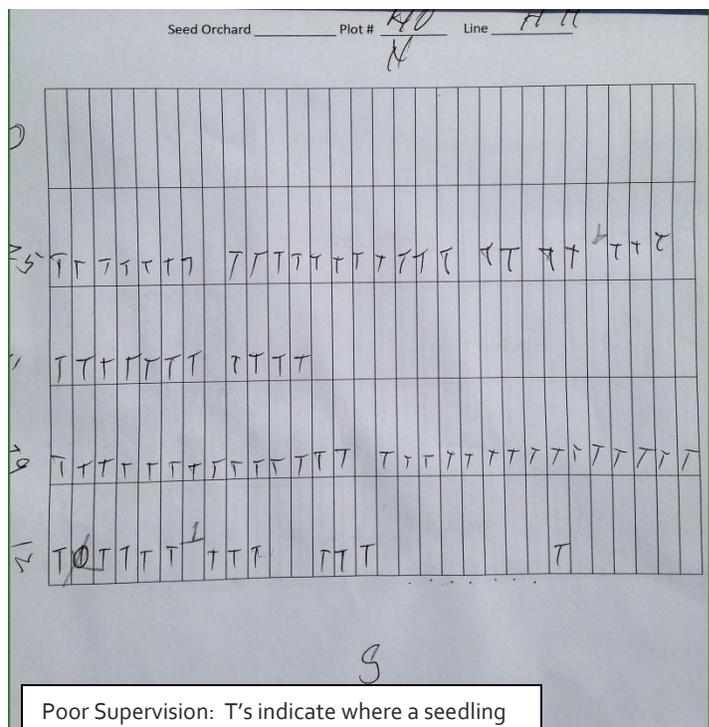
In early June, we counted the number of trees that had emerged in each of the newly planted plots. The results were a shock. Of the 25 plots we had planted this spring in the two orchards, only 9 appeared to be viable (i.e. had more than 105 surviving trees.\*). The problem was worst at

the WSSC orchard--of the 16 plots we planted there, only four had more than 105 trees on June 3. There were even a few plots in which no trees sprouted. At the CMREC orchard, seven out of nine plots had over 120 trees by June 3. The two plots that didn't were both were both below the

105 tree threshold, and both were from the Prowell family line, suggesting that the problem may have

been with the nuts themselves. Fortunately we had started a small number of seeds in pots during March that were used to replace some of the failed seeds, but we did not have sufficient replacements to cover all of the losses.

So that our hard work this spring would not go to waste, MDTACF has implemented a plan to salvage as many as we can of our new seed orchard plots. The plan involves: 1) planting surplus B3F2 seeds, either directly in the orchards, or in pots, to be transplanted to the orchards in the fall, 2) consolidating non-viable plots by transplanting seedlings from the same family lines to create a single viable plot, 3) augmenting non-viable plots with seedlings currently being grown by a Maryland Department of Corrections vocational training program. In this way, we hope to have eight viable 2016 plots at CMREC rather than seven, and seven at WSSC rather than four. We had hoped for more, but found that we had very poor germination



Poor Supervision: T's indicate where a seedling emerged in this plot of 150 seeds. If the problem were just weather or seed rot, the trees would be randomly distributed. This pattern reflects the fact that different individuals working together, had different planting techniques, one good and one not.

rates for nuts stored in the refrigerator until late May (between 6 and 20 percent). We do expect to have a total of fifteen viable 2016 plots rather than nine, but are still disappointed considering the effort that went into harvesting nuts for, preparing and planting 25 plots.

If there is a silver lining to this, it is the lessons learned. These include:

- That we need to prepare for and supervise volunteers better,
- That it is wise to harvest extra nuts and grow them in pots to be used to augment orchard plots where we lose too many trees,
- That it is easy to transplant seedlings in the early part of the first growing season, with very high survival rates,
- That germination rates for nuts stored in the refrigerator until late May/early

June are far lower than for those planted in March/April, i.e. that it is best to get everything into the ground or into pots by early/mid-April if we intend to grow it.



\* Seed orchard plots contain 150 seeds from a single family line, usually a single mother tree. For a plot to be viable, we need to have at least 105

surviving seedlings at the end of the first growing season. Since the trees planted in seed orchards are B<sub>3</sub>F<sub>2</sub>s, they can range from very low to very high levels of resistance, so we need a large percentage to survive in order to be confident that there will

still be highly resistant trees in the population when we inoculate in the third growing season. If we have fewer than 105 survivors at the end of the first season, we would probably need to uproot the trees and replant the plot with new seed the following year.

*One of MDTACF's seed nurseries, growing trees in pots to replace those that did not sprout in the field."*

## Fort Detrick Orchard Tour

By James Becker

Fort Detrick is next in our series of virtual orchard tours. Let's sneak a peek behind the chain link fence.



Ft. Detrick is a United States Army Medical Command installation located in Frederick, Maryland. The Fort's 1,200 acre campus conducts biomedical research and development, medical materiel management, global medical communications, and the study of foreign plant pathogens.

The U.S. Army has been very gracious by loaning 1.82 acres to MD-TACF. An orchard was planted in April, 2010, and we now have about 161 established trees. Ron Clements, a retired police officer and former 29<sup>th</sup> Light Infantry Division reserve soldier, is

the primary caretaker. He does such a good job of it that he stands accused by Orchard Manager Ron Kuipers of "giving the trees backrubs!" The orchard is a peaceful place to work. One can often see deer, red fox, and groundhogs, even in midday. Several bluebird boxes keep our feathered friends twittering contentedly.

Ron Clements works closely with the Army's property manager, Dr. Lynn Hoch. Dr. Hoch often visits with us when we come to work in the orchard and is dedicated to helping with the chestnut restoration project. We couldn't ask for a better facilitator.

The orchard was originally intended to be a demonstration orchard to help in educating various groups visiting the site. As the Army has implemented



additional security measures, making it difficult for groups to visit, we have started to convert the orchard into Restoration orchard.

On the northern edge of the orchard hangs a Lingren

Ambrosia beetle trap on loan from the University of Maryland (UMD) Extension office. As with our Black Hill orchard, we are monitoring for the appearance of Ambrosia beetles and reporting the results to the UMD Extension Service. The trap is checked on a weekly basis from March to July. Female Ambrosia beetles are a menace to many young trees as they bore into the tree trunk to make a nest and lay eggs. They also transmit a fungus, *Ambrosiella*, that kills the tree. Our moms were right, hygiene matters!

Crime is unheard of due to the close scrutiny of the base police and nearby Marine 4<sup>th</sup> Light Armored Reconnaissance Battalion. We can sleep peacefully at night knowing our orchard is well protected.



## Changing Of The Guard

By Dave Gill

Matt Brinkmann, who was the ACF Mid-Atlantic Regional Science Coordinator for the last four years took a new job in June. The Chapter is grateful for Matt's enthusiasm and guidance and wishes him well in his future career.

ACF has selected Tom Saielli from the Southern Region to fill Matt's vacancy. In his service to ACF, Tom has been based in TACF's national office in Asheville, NC, overseeing the organization's Southeast region which includes the TACF state chapters of KY, TN, NC/SC (Carolina's), AL and GA. He received his MS in Forest Sciences from the University of Vermont in Burlington after earning his BS in Biology and Environmental Science at the University of Colorado in 2007. Tom will now be based out of Charlottesville, VA.

Tom came to TACF with significant hands-on

experience with the TACF breeding program, having worked with New England Regional Science Coordinator, Kendra Gurney, as a research technician investigating chestnut cold-tolerance at the University of Vermont. Tom also served as a Crew Leader with Wildlands Restoration Volunteers in Colorado, where he managed dozens of large-scale restoration projects and spent nine years as a medic and firefighter with the Nederland Fire protection District.

Welcome Tom.



**Tom Saielli, Mid-Atlantic Regional Science Coordinator**

## Wait – Are You Certified to Spray?

Protecting the environment we live in is a never ending

battle, so is trying to manage the weeds and damaging insects in our orchards. The rules and regulations on the application of pesticides are complex and ever evolving. These laws are created by Federal, State, County and Local government entities.

The Chapter has taken steps this year to do our part in complying with this myriad of requirements. We now have four members who have passed Maryland's Private Applicator exam. This certification will help keep our orchards in compliance with the various rules and help protect the environment.

The Chapter members who have been Certified are: Dave Gill, Bruce Levine, James Becker & Perry Cregan. If you would like more information about getting Certified, please contact Dave Gill at [MDTACF@outlook.com](mailto:MDTACF@outlook.com)

## Blister Free Inoculations

By Gary Carver

Several years ago, when our TACF regional science coordinator arrived to help us with inoculations for blight-resistance testing in one of our orchards, she asked me if there was a wine-making supply store nearby. Her cork borers had broken handles and they were causing irritation and blisters on her hand. She used the borers to



make holes in the tree bark where the blight fungus is inserted. I asked her if she had ever used a hollow steel punch for this purpose. I use these punches, which are made to be hit with a hammer to cut holes in leather and other thin materials, in my rotary carving tools to

make eyes for my little bird carvings. Before long, we



Matt Brinckman, former Mid-Atlantic Science coordinator using the new method of making inoculation holes.

were using a cordless drill with a 1/8 diameter punch (in place of a drill bit) to make the holes in the bark for inoculations. Now, inoculations are routinely done using this method, which saves a lot of time and sore hands.

## Summer Road Trip

By Sara Fitzsimmons (TACF)

Jared Westbrook (TACF Director of Science) and Jeff Donahue (Meadowview Operations Manager) and I took a week to travel and visit orchards from Maryland to New Hampshire. Our goal was to get Jared and Jeff some experience looking at Chapter orchards, especially those which are

unique and/or have a different flavor from that which is being done a Meadowview. I also wanted the guys to get a perspective on the Chapter system and the volunteers who drive the work. They are who make TACF the unique and wonderful organization it is!

In the interest of time, we stuck to those orchards along major roadway corridors and along the east coast: I-81, I-95, etc., so we could fit everything in to 5 days, including travel to and from Asheville/Meadowview.

We started in MD, which was an easy location for the three of us to meet and has some excellent examples of early backcross materials. We started at Monocacy because it has B2s performing amazingly



Pictured (L to R) Jeff Donahue, Sara Fitzsimmons, Jared Westbrook, Gary Carver and Dave Gill

well. It also would be the start of showing Jeff and Jared how much environment affects the canker phenotype. We then went to Thorpewood to see the parents of the Monocacy B2s, and some older Clapper B3s, probably the oldest Jared or Jeff have seen (since many of the oldest B3s at Meadow View have been rogued out).

Highlights of the other states visited:

### **Pennsylvania**

- We visited the Ort tree, an American chestnut with resistance, purported to have survived the original chestnut blight pandemic.
- The Tyler Arboretum orchard, outside of Philadelphia, with one of the PA Chapters oldest Germplasm Conservation Orchards (GCO), a planting of "pure" american

chestnuts. Planted in 1997, there are over 10 genotypes from across PA planted at the location, one genotype of which still retains original stems from the original planting.

- We ended the trip with long-time PA Chapter volunteers Blair and Mary Carbaugh. Blair and Mary have a progeny test affected by *Phytophthora cinnamomi* (Pc), the northern-most affected orchard by Pc that we know of.

### **New York**

- The Lasdon Arboretum which has one of the NY Chapters oldest GCOs, planted in 1991. None of the original stems are still alive, but over 20 genotypes from across NY are located at that orchard among 400 trees. The site is also starting to plant early tissue-culture

propagated transgenic trees from SUNY-ESF's program.

### **Maine / Rhode Island / New Hampshire**

- A visit to a younger B3 orchard with the New England Forestry Foundation (NEFF) which had just been inoculated - to show Jeff and Jared how ratings are done. Then to another progeny test planting in southern NH with the Beaver Brook Association.

We covered a lot of territory and had a chance to chat a lot about the future of TACFs breeding program and how to increase both efficiencies and efficacies of current methodologies. I think all that will come out at a later date more formally, but the **three major takeaways** for the near future are

- 1)** it's not necessary to do a full 9 replications of seed orchards with Clapper and Graves

- 2) we need to fully evaluate these B3s for performance across the range/Chapters and eliminate poor performing lines (even if that means reducing the number of lines w/in a Chapter) and
- 3) we need to increase our conservation of American germplasm across the Foundation, especially in the south.

vary on weather and bur maturity.

seed orchard at this site.

### Information Booth Events



- Aug 20 - Little Bennett Park, Germantown, MD - Great Outdoors Festival
- Sept 17 - Frostburg University, Frostburg, MD - Appalachian Festival
- Oct 1 - WSSC Watershed Festival at Brighton Dam, Brookeville, MD
- Oct 1 - Derwood, MD - Harvest Festival at Agricultural History Farm Park
- Oct 8 - Ellicott City, MD - UMD Central MD Research & Education Center Open house - We have a new 2 acre

## Chapter Board of Directors

President – Dave Gill  
Vice President – Bruce Levine  
Secretary – Barbara Knapp  
Treasurer – Emilie Crown

### Board Members

Armin Behr	B. James Benton
Dennis Bittinger	Dr. Gary Carver
Ron Clements	Ed Crawford
Jim Curtis	Paul Eriksson
Katia Engelhardt	Ron Kuipers
Stan Fisher	Robb Newman
Darryl Johnson	Stephen Peck
Karl Mech	Andrew Ralowicz
Shelley Packard	Dean Yap
Susan Proper	Tom Scrivener
Mark Vollaro	

I think Jared & Jeff would agree with me that even though we traveled up to 2,000 miles in one week, the trip will pay future dividends as the program evolves.

## MDTACF Calendar of Events 2016

### Membership Meetings

- October 15, 2016 – 11AM – Annual Meeting

### Board Meetings

- September 10, 2016 – 10AM

### Orchard Work

- Orchard Harvest – Sites are identified in page 1. Dates will

## Chapter Information

Stay up to date on Chapter activities by going to our WEB site – [www.MDTACF.org](http://www.MDTACF.org)

# Membership Renewal

Renew your membership support for The American Chestnut Foundation

Please return to:

The American Chestnut Foundation

50 North Merrimon, Suite 115

Asheville, NC 28804

Additional gift to the MD Chapter: \$ \_\_\_\_\_

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

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

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

E-Mail: \_\_\_\_\_

To renew online visit: [www.acf.org/join.php](http://www.acf.org/join.php)

## Membership Levels:

**Individual Membership** -- \$40.00 Receive all TACF publications and car decal

**Organizational Membership** -- \$100.00

## Annual Sponsor Memberships

Includes Restoration Chestnuts 1.0

**CHESTNUT** (\$300 and above) All membership benefits PLUS 4 Restoration 1.0 seeds

**BRONZE LEAF** (\$500 and above) All membership benefits PLUS 6 Restoration 1.0 seeds

**SILVER LEAF** (\$1,000 and above) All membership benefits PLUS 12 Restoration 1.0 seeds

## Help the Maryland Chapter Grow in 2016

Please help us spread the word about our work to restore the American chestnut. We want to grow our membership in 2016 and you can help. If you know someone who may be interested in the restoration of the American chestnut tree, send them a personal invitation to consider joining. You might even consider purchasing a gift membership to help to get someone interested. Or invite them to our Annual Membership Meeting so they can learn about our efforts. Help us grow the Chapter to be as strong as the American chestnut.