

# Chestnut Tree



The Pennsylvania Chapter of  
The American Chestnut Foundation

**PA-TACF Contact Information:**

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## Fall Meeting Scheduled for Saturday, October 29

### Biology, Biomass, and Banker

#### At the Monroe County Conservation

Meeting registration will start at 8:30 a.m. Presentations and workshops will begin at 9:00 a.m. and run until 2:00 p.m. Please donate \$10 to cover the cost of break service and lunch.



**Dr. Thomas Molnar**  
Rutgers, The State University  
of New Jersey,  
*Department of Plant*

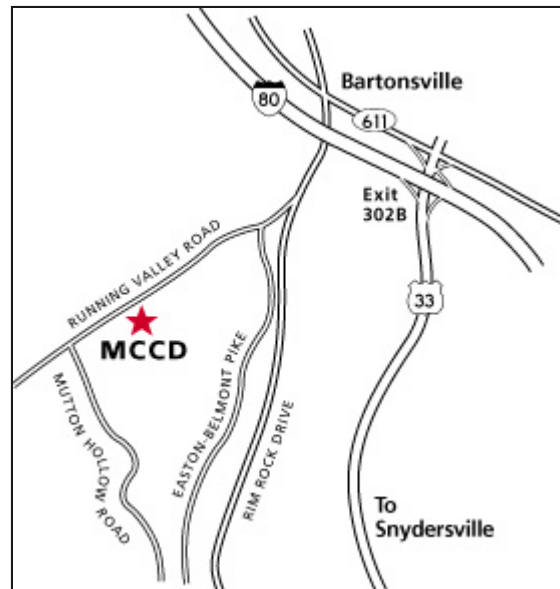
We are pleased to have **Dr. Thomas Molnar**, Rutgers University. Professor Molnar’s research includes the genetic improvement of hazelnuts as well as other woody ornamental species.

**Mark Banker**, TACF’s Director of Development will present “*Connecting Chestnut Restoration and Wildlife Management for the Future*”. For those of us



**Mark Banker**, planting 5th generation (B3F2) seedlings at the Arboretum Seed Orchard at Penn State

who have been out of school for a few years, **Sara Fitzsimmons** will provide a breeding update and a “*Chestnut Biology 101*” course for us. And **Jim Walizer** will give us and update on his chestnut biomass project at Walizer Farms. We hope to see you there!



#### DIRECTIONS TO M CCD ([mconconservation.org](http://mconconservation.org))

(Exit 302 I-80 West or 302B I-80 East)

- \* Make a left onto Route 611 N
- \* Make a left onto Rim Rock Road at second traffic light
- \* Follow for 0.4 mile, bear right onto N. Easton-Belmont Pike
- \* Follow 0.2 mile, then bear right onto Running Valley Road
- \* M CCD/MCEEC will be 0.7 mile on left.



In the event of a snow emergency, please call the Leffel Center for meeting announcements 814-863-7192





## Presidents Corner by Tim Eck

Greetings everyone - I hope you enjoy the fall newsletter. It contains accounts of various activities and projects of our members, staff and cooperators. The photo on this page shows several volunteer workers preparing to plant at the House Rock CMS BC1 orchard in Lancaster County.

Blair Carbaugh presents the first installment on planting chestnuts on reclaimed coal mine land. There was a time when ameliorating the environmental damage caused by the mining industry was seen as aiding and abetting the enemy. I can't begin to understand all the politics that led to our ability to cooperate in endeavors like this but I'm pleased to see it happen and looking forward to more of the same.

J.A. Lankalis writes of his experiences with chestnut regeneration in clearcuts and suggests clearcuts as an ideal venue to plant restoration chestnuts. With responsible lumbering practices involving deer control, I believe his conclusion that a blight resistant chestnut seed could compete with stump regeneration.

Our intern, Chad Barclay investigates the vole infestation at the Arboretum at Penn State and comes up with some recommendations. Voles are especially problematic

there because they live under the weed control matting used in lieu of herbicide. I guess it's one of those regulatory anomalies that we can use zinc phosphide to control voles within the area but not a waterways approved glyphosate such as Rodeo with a hundred times less LD-50 toxicity.

Our volunteers are what we are all about. Well them and American chestnut restoration. This issue's volunteer spotlight is focused on Thad Jones, Sewickley Borough Park Ranger. I have seen Thad at meetings for years and thanks to this article, I now know more about where he's from and what he does. These volunteer photo ops are an excellent way to get to know our members a little better so keep sending them in. The best photos are at least ¾ profile with overcast skies but you can't always control that. Don't even think of sending inoculation photos – they're all just people's butts sticking out of the foliage! (ha,ha)

In our activities lineup, we just finished a very successful event at Ag Progress Days (Aug. 16-18) where we were located next to the PA Woodmobile. Our next big event is the Raystown Branch Event on Sun., September 25, 3:00pm – 6:30pm. For more info, check the website or call Lori Krause at 814-643-2372.



Then there is the harvest - contact the Leffel Center if you want to volunteer. And on Saturday, October 29, 9am – 2pm is the fall meeting at the Monroe County Conservation District Education Center. Speakers for the fall meeting include Thomas Molnar, Mark Banker, Sara Fitzsimmons, and Jim Walizer. Hope to see you there.

*Thank you Alcoa Global Impact,  
Exxon Mobil Volunteer Match,  
and the George Martin and Miriam Martin Foundation for your support this year.*

Tim Eck and Carl Martin give planting instructions to volunteers at the House Rock orchard in April. Thank you Kris Baum, Tina Wolk, John Yoder, Steve Baumann, Kevin Wozniak, Doug Shelly, Michael Keen, Dave Keen, Roger Ober, Kevin Raiser, Ken Arnold, and Liv Eck. We planted about 1200 trees and fertilized about 3000 trees and prepared sites for an additional 300 trees.



## VOLE CONTROL

By Chad Barclay, PA-TACF Intern

After conducting my research and observing the Arboretum grounds, I feel that we have two different types of voles in the orchard: Meadow vole (*Microtus ochrogaster*) and Woodland vole (*M. pinetorum*). They are currently living under the landscape fabric around the seedlings and under the heavy grass cover along the fabric. Voles thrive in a habitat of thick ground cover and tend to make their burrows there. A vole has a small home range of approximately a ¼ acre, but tends to vary with the season and available food in the area. Breeding season is normally in the spring and summer, but can happen year-round. A vole's litter size varies from 1-11 young and their gestation lasts about a period of 21 days. Voles tend to live short life spans of 2-16 months, but the first month or two is where most of the mortality occurs<sup>1</sup>. The following are some control methods I have found while conducting my research.

### Method 1: Zinc Phosphide

Place Zinc Phosphide pellets under the landscape fabric twice in the fall. Apply pellets and wait around 2.5-3 weeks and apply again. With two applications roughly 3 weeks apart we should kill both the young and old in one fall season. Orkin at Penn State said they charge \$32 per hour and should take around an hour or two per application. Applications of pellets under the fabric must be done when no or little rain is in the forecast. One positive note is that Zinc Phosphide will also kill groundhogs and mice. I checked with Bell Laboratories and the Zinc Phosphide will not harm the ground water and be safe to place by a wellhead<sup>2</sup>.

### Control Method 2: Habitat Modification

Remove all landscape fabric and spray herbicide under seedlings to control grasses and weeds. If the fabric is removed, you are destroying the habitat that the voles are thriving in.

### Control Method 3: Trapping

Place traps out at the site and remove the voles

from the site. This method is very time consuming and not very effective on a large scale. Both box traps and snap traps can be used to kill voles, but are not species specific.



**Vole Burrows and Trails**

[http://www.volecontrol.com/Images/burrow\\_holes\\_pasture.jpg](http://www.volecontrol.com/Images/burrow_holes_pasture.jpg)

then they will return.

### Other Methods Researched:

Some other methods researched were shooting, fumigants and frightening. These methods are found not to be effective or not practical to control voles in the wild<sup>1</sup>.



**Vole/Mouse Damage** on a B3 tree at a planting in southern New Jersey. The vole overwintered in the tree shelter and had filled the shelter with nesting material. The tree was entirely girdled and dead by the spring.

apart to kill both adults and juveniles. Placing the Zinc Phosphide under only one plot keeps the amount of product in the environment to a minimum and also lowering the cost of the control to the foundation.

### Control Method 4: Repellant

Repellants such as “Shake Away” could be used to scare away voles, but are expensive and tend to not be effective. One bottle of the “Shake Away” is \$99.95 (12 pound jug) and costs about \$12.00 shipping. We would need around two bottles to complete the plots. “Shake Away” will need to be reapplied after heavy rains, but shouldn't need to be done after a light rain<sup>3</sup>. The one problem I see with the repellants are that they tend to be a temporary fix and if the voles have their habitat still in place

### Summary:

In order to set back the vole population at the Arboretum, I would use two types of management: herbicide and Zinc Phosphide. I would herbicide outside of the 400 foot “no spray zone” around the well head and pull up all the landscape fabric in those areas. The second pest management practice I would conduct on this site is placing Zinc Phosphide under the landscape fabric in the 400 foot “no spray zone” twice before the end of October. Both applications should be done about 2-4 weeks

### Resources:

<sup>1</sup> ICWDM: [http://icwdm.org/handbook/allPDF/RO\\_B177.PDF](http://icwdm.org/handbook/allPDF/RO_B177.PDF)

<sup>2</sup> Orkin: [www.orkin.com](http://www.orkin.com)

<sup>3</sup> Critter-repellent: <http://www.critter-repellent.com/vole/vole-control.php>

Extension Toxicology Network <http://pmep.cce.cornell.edu/profiles/extoxnet/pyrethrins-ziram/zinc-phosphide-ext.html>

Contact Chad “The Intern” Barclay at [cab471@psu.edu](mailto:cab471@psu.edu)



## Volunteer Spotlight: Thad Jones



Thad Jones plants at Sewickley Academy. Photo by Lucy Schaly, Beaver County Times. Timesonline.com

This issue’s volunteer spotlight is dedicated to Thad Jones, Sewickley Borough Park Ranger, for his commitment to chestnut restoration in the Pittsburgh area.

Thad has planted chestnuts at Sewickley Heights Borough Park and Fern Hollow nature center. He is planning another planting in 2012. Thad hosts tours of the orchards, and takes the chestnut display to several outreach events including the Sewickley May Fair. This year he has worked with students to grow chestnuts at the Sewickley Academy greenhouse and has inspired the teachers and students to plant chestnuts. He plans to work with more schools in the area using the chestnut learning box materials. Thad has applied for grants for chestnut restoration projects, and works with the Sewickley Garden Club to host the annual Sewickley Branch event.

Thank you Thad for all you do towards chestnut restoration!

## Volunteers continue our mission with plantings and outreach :



Tony Shahan, Director of Newlin Mill Park, Glen Mills, PA ([newlingristmill.org](http://newlingristmill.org)) with founding PA-TACF member at Past –President, Al Eelman. Al donated his seedlings to the historic grist mill this past spring.



Gary Micsky , Mercer County Extension Educator , Sustainable Ag and Natural Resources and Eric Shreckenghost, Army Corps of Engineers Ranger, plant at the Shenango Reservoir.



Thank you John Wenderoth, Alan Palmer, Pete Lane and Al Eelman for taking care of the chestnut orchard at Tyler Arboretum. The group also represented PA-TACF at the “Totally Terrific tree house” event on August 6. [Tylerarboretum.org](http://Tylerarboretum.org)

Photo by Mark Banker



Chad Barclay and Dan Paulson helped to plant 2000 chestnut seedlings at the Arboretum at Penn State this year.



# Chestnut Seedling Competition in Clear-Cut Forests by J.A. Lankalis

Where ever a forest is clear-cut, it would seem that the established root systems of the stumps of the mature trees would have an advantage over seedlings in regrowth. The stumps should be able to sprout up more quickly than a beginning root system of a seedling. Several years ago, I had to go to Hazleton. I was on Airport Road opposite Wal-Mart. A building called a wellness clinic was adjacent to a forest that had been clear-cut to make way for developments. I could see numerous chestnut trees and decided to go back to that area to collect nuts in the fall.

The clear-cut is located in Butler Township, Luzerne County on a mountain ridge east of the Penn State Hazleton Campus. The underlying bedrock is the Pennsylvanian Post-Pottsville conglomerate. When I returned in the fall to collect nuts, I noticed that the chestnuts were the tallest trees in that woodlot. Since they were not very tall, it was easy to collect nuts. I had gone there again with grad students from Juniata to collect leaves from twenty trees. The task was accomplished within ten minutes. The students said that in other areas, it would have taken well over an hour.

I made another observation in the area. When I wandered into woods untouched by the lumbermen, I found chestnut trees were present as small spindly saplings stunted by the shade of the overhead canopy. If the adjacent clear-cut had the same structure, then those chestnut saplings grew very quickly once they received full sun. The photo shows the structure of the woods before clear-cutting. The understory is leaf litter and mountain laurel. It seems that if mountain laurel is present, chestnut saplings should also be commonly present. It is possible to have areas of mountain laurel without chestnuts. I found areas without mountain laurel did not have chestnuts. Does anyone know of sites lacking mountain laurel but abundant in chestnuts?

The Hazleton clear-cut is twenty miles from me. Less than a mile from me is Wildcat Mountain just south of Tamaqua, Schuylkill County. Three years ago, the Game Commission made a clear-cut on Wildcat Road which goes up that mountain. The mountain top is over the Mississippian Pocono sandstone. There are numerous chestnut seedlings along with mountain laurel as seen in the photo. After the trees were cleared, I marked chestnut seedlings with red plastic ribbons. Two years later, this was obviously an unnecessary effort



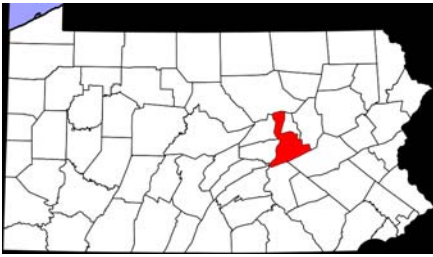
After clear-cutting, the ground appeared naked. After three years it became recovered with second growth. However, the chestnuts were not second growth. In the photo 0039, the chestnut clearly towers over growth from stumps. In photo 0038, that same tree has a single trunk. It did not originate from a stump.



The photo (041) shows an overall view of the clear-cut on Wildcat Road. The two tallest trees by far are chestnuts. Chestnut seedlings respond well in clear-cut recovery areas. Perhaps, that would be the best way to re-establish the blight resistant seedlings. Plant the seeds in a forest. When the seedlings appear, clear-cut the area, and the chestnut seedlings will dominate. Unfortunately here, the blight will kill off these trees before

they can form the dominating canopy.





## Planting American Chestnuts On Reclaimed Coal Mine Lands in Northumberland County, Pennsylvania. A Brief Story (Part 1) By Blair T. Carbaugh

The American Chestnut (*Castanea dentata*) was a once prominent tree of our forests. It comprised 25-40% of forested areas of central and northern Pennsylvania. The excessive timbering practices of the past 150 years and the introduction of the blight fungus (*Cryphonectria parasitica*) to our woodlands around 1900 has almost eliminated the population. Occasional survivor trees and many root sprouts have maintained its present limited population.

The American Chestnut Foundation (TACF) has embarked upon a breeding program to transfer the resistant characters of Asiatic chestnut species to the American tree. In anticipation of a blight-resistant American chestnut being on the near horizon, efforts to establish best restoration and reintroduction practices have already begun.

One of those efforts includes planting on abandoned mine lands (AMLs), an endeavor in which TACF and its Pennsylvania chapter (PA-TACF) have been participating since 2000. Successful plantings have been few. The goal is to know how to plant and tend resistant American Chestnuts on mine lands when breeding makes them available.

The Office of Surface Mining (OSM) has had successes planting chestnuts and other high-value hardwoods on reclaimed mine land in Kentucky, Tennessee and Ohio. Their technique was to plant bare root seedlings. That involved deep sub soiling of sites, often referred to as ripping, and various other techniques to eliminate problems of compaction and water pockets. This is expensive and quite labor intensive.

In 2004, the OSM created a program called the Appalachian Regional Reforestation Initiative (ARRI) and worked to gain research and core partners in 2005. In 2008, TACF joined both arms of the pro-

gram with representatives. They searched landowners of mine sites in Pennsylvania who were willing to prepare mine sites, and with financial help from the Bureau of Abandoned Mine Reclamation (BAMR) funding, began a program of planting. They desired to plant a broad variety of trees and wildlife woody plants. TACF furnished many chestnuts for these plantings, many of which to my knowledge were bare root seedlings.

In the summer of 2008, I had conversations with Northumberland County Commissioners about the possibility of planting some American chestnuts on county reclaimed mine land. They were agreeable if they did not occur any

costs or obligations and had the county engineer, Mr. Charles Hopta, take me to the Burnside entrance of the 6,000 acre tract of mine lands to pick a site. We did, and arrangements were made with the commissioners to plant trees in the spring of 2009.

In April of 2009, I was asked by TACF and OSM to give a presentation to a group of mining engineers on the topic of TACF's breeding program and

the benefits of planting forest type trees, including chestnuts on mine lands. At that meeting I learned from Dave Hamilton, OSM-ARRI director for PA that OSM-ARRI had a plan with BAMR to do a reforestation planting in Schuylkill County in early May. TACF was supplying several hundred chestnut seedlings for this planting. At the request of TACF and ARRI, I represented TACF at that planting. During this planting, I asked Dave Hamilton how to get Northumberland County involved in a similar planting.

Not wanting to place any barriers either politically or in site selection to a possible Northumberland County reforestation project, I declined the permission to plant and set about getting Dave Hamilton of ARRI and our commissioners together





**The Challenge: To plant and successfully grow American Chestnut trees on abandoned/ reclaimed mine land without extensive surface treatment, such as sub soiling or end dumping.**

to begin plans for an ARRI-BAMR planting. They did and are progressing toward a planting on the county proposed OHV park lands at Boyer’s Knob. Hopefully that can happen in 2012.

Concurrent with the plans for

Northumberland County, I was in discussions with DCNR Bureau of Forestry of the Weiser Forest District. They had recently acquired land in the Roaring Creek watershed that had extensive reclaimed mine land. The forestry personnel at the Roaring Creek tract were enthusiastic about the possibility of grow-



Blair Carbaugh and Sara Fitzsimmons at Blair’s orchard in Danville. Blair was awarded the **Natural Resources Forestry Conservation Award** by the Northumberland County Conservation District for “going above and beyond in the area of forest conservation.” (photo by Mark Banker)



ing American chestnuts on their reclaimed mine land. I took advantage of this enthusiasm to expand my research project to include their sites. This area is also in Northumberland County.

Part Two of Blair’s article will be in the next issue of *The Chestnut Tree* and will include the background, research sites, planting protocol, post planting management.

*Dave Crowl is a director of the Northumberland County Conservation District. He has taken on the NCCD’s representation to the County’s Off Highway Park committee and its development. He is also very supportive of the chestnut research project. Many thanks to Dave and to Judy Becker, the NCCD District Manager. Also thanks to the Bureau of Forestry – especially Mark Deibler, “Marty” Martynowych and Wesley Harner, whose labor of love is our forests.*

**Share Your Harvest...**



Each year, we ask members to send us their chestnuts. The PA-TACF breeding program harvests nuts for the purpose of sustaining the chestnut germplasm pool; supporting the breeding programs of TACF, PA-TACF and other research programs; maintaining American chestnut trees in a controlled environment; Providing new growers with tree growing experience as well as test the local soil and environment.

**Processing and Mailing Nuts:** As soon as possible, place the nuts in damp, **NOT WET!**, peat moss. Get even distribution of nuts within the peat. It is very important to use sterile peat, not potting mix or other dense media. Not using sterile peat will encourage the proliferation of mold, as will having peat moss that is too wet. Place the nuts and peat in a plastic bag or Tupperware container that has been punched with holes. This allows the nuts to breath and also reduces molding. Be sure to label the bags with number nuts contained in the bag and the mother tree and/or cross form which the nuts were harvested. Mail to PA-TACF as soon as possible within two or three weeks, in these bags. Include the records and location of each tree. **Call 814-863-7192** if you have any packaging questions. Thanks for your support!

**PA-TACF  
206 Forest Resources Lab  
University Park, PA 16802**



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The Chestnut Tree Newsletter

News From our New Jersey Members:

We measured cankers at Stokes and Lark this year. Thank you John Kressbach, Vicki Brownell, Bob Summersgill, Clark Beebe, Bill Harris, Chad Barclay, The Strubles, Alvin Jackson, Mike Webb and Jack Shuart. Thanks are also due to NJ members for working at the *Festival of Wood* August 6 and 7 in Milford, PA: Bob Summersgill, Tom Paris, Les Nichols, Bill Harris, Ted DelGuercio and Dawn DelGuercio. (and PA member Ethan Habrial!)

We continued to plant American seed at the State Nursery in Jackson. We also going to plan to hand pollinate a stand alone large, 19 inch dbh tree found in Atlantic Highlands (see picture to the right). This is a healthy tree that has apparently had blight and won.

Ron Farr, PA-TACF Board Member and forester at the Wanaque Reservoir, wants to clarify the N.J. news item from our last issue. It was stated that one or more large Chestnuts in New Jersey that are on record as the largest Americans in the state have not been ascertained to actually be American and could be Chinese. These ARE NOT the large Monmouth County trees that we have



been finding, which are American chestnuts and which have been verified by several sources.

19dbh tree found in the Atlantic Highlands, NJ. Photo by Tony Rosati