DEDICATED TO RESTORING THE AMERICAN

Chestnut Tree

The Pennsylvania Chapter of
The American Chestnut Foundation

PA-TACF Contact Information:

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Volume 15 Number 1 **P**rinting of the ***Chestnut Tree Newsletter*** is courtesy of **NPC, Inc.** of Claysburg, PA

Spring Meeting Scheduled for Saturday, March 20

Meeting features latest research, nursery work, and wildlife presentation

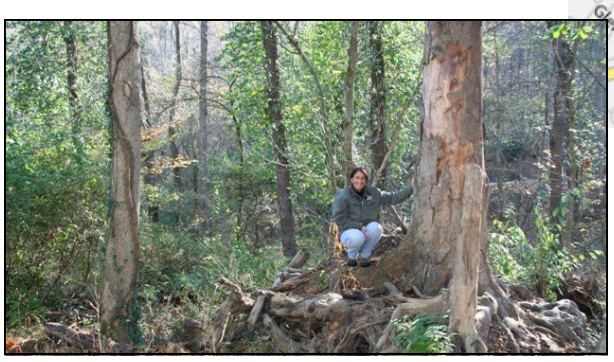
Meeting Date: **Saturday, March 20**
Location: **Milton B. Hershey Environmental Center, Hershey, PA.**
Time: **8:30 a.m. to 3:30 p.m.**
Donation: **$10 (for lunch and break service)**

Join us for our annual spring grower's meeting in Hershey. It will be worth the drive! This year's meeting day is packed with informative presentations.

Dr. Bob Paris, TACF's research geneticist, discussing his work with different sources of resistance. Bob has extensive background in executing breeding programs, including developing disease-resistant soybeans with the USDA Agricultural Research Service .

Dr. Bob Paris

Established in 1922, Penn Nursery produces 2.5 million bare root, hardwood and conifer seedlings annually. Due to state budget cuts, Penn Nursery has suspended its annual seedling sale to private landowners. **Tina Alban,** Operations Manager at the DCNR Penn Nursery, will discuss how they grow trees, the future of state nurseries, and chestnut partnerships.



Tina Alban, Operations Manager, Penn Nursery

Dr. Jan Dudt, Professor of Biology, Grove City College, will present "The Fred Haun American chestnut orchard: blight, survivorship and recruitment. A Grove City College Study."

Dr. Jan Dudt

Thanks to a generous donation by a PA-TACF member, **Red Creek Wildlife Center** will bring their live animal presentation to our group, and we'll see first hand, who else will benefit from chestnut restoration.

Directions to our Spring Growers Meeting:

1. From US 322, turn north onto Meadow Lane (TWP Hwy 755)
2. Continue on Meadow Lane to for .05 mile to Crest Lane
3. Turn right to the Environmental Center

Below: A = Environmental Center.
B = Supply Pickup location following meeting.

In the event of a snow emergency, please call the Leffel Center at 814-863-7192 for an update.

KEEP INFORMED by joining the PA-TACF listserv.

If the meeting is cancelled due to inclement weather it will be rescheduled for March 27.

President's Corner

By R. Alex Day

At the time of this writing, our Chapter has just completed another annual outing at the Pennsylvania Farm Show. My personal thanks go out to all volunteers who helped staff our booth for the show. Several members even worked several days. For those who didn't get an opportunity to assist at the Farm Show, there will be other opportunities to volunteer later this year. You may check our Chapter web site for the dates and places. We send a special thanks to **Chris Ditlow** who donated nine beautiful, multi-colored wood cutting boards for sale at our booth. Chris's colorful craft items are always a big hit with the public.

At the TACF annual meeting last October in Pittsburgh,

Tom Pugel ties a ladder to his PA-TACF truck following a long-days pollination at Red Clay orchard in Delaware.

our own **Tom Pugel** was named as a Volunteer of the Year for his tireless efforts on behalf of the PA Chapter and TACF. Tom is our member who drives all over in his meticulously maintained pick-up truck which is a moving commercial for the American Chestnut Foundation! If you ever see this truck, you will know Tom is a real fan of the Foundation and its goal of breeding a blight-resistant American chestnut.

In line with TACF's increased production of blight-resistant seeds, regular readers of *The Bark* will notice our national headquarters' introduction of a program to get these seeds distributed throughout all the Chapters. The fall issue of *The Bark* contains the details of this program. If PA-TACF readers were not able to

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PA member/volunteer Linwood Starner at the Farm Show

Long-Term Members Will Receive Test Seed First

In response to the recent inquiries about test seed, membership, and the new TACF Annual Sponsor Levels, TACF has developed a question and answer document, available at the website **www.acf.org.**

As advanced seed becomes available, members will be contacted by mail. TACF will give you the option of 5 test seed or 2 test seedlings. You will be asked to sign a germplasm agreement and take data a certain intervals. Members with the oldest continual membership anniversary dates will be contacted first. More members will be contacted in the future as more seed is available to test. Our members are important to the chapter. You can have a regular membership, be a long-standing member, and still be offered seed.

TACF is not selling seed. The new Sponsorship levels are designed to raise funds for chestnut restoration, and the test seed is given as a membership "gift or member benefit"—just like other non-profit models. If you have any questions, please contact us at the Leffel Center: 814-863-7192 or email mail@patacf.org

PA MEMBER PLANS RESTORATION BRANCH #2 IN HUNTINGDON COUNTY

Many of you have read about the new TACF membership/fundraising model aimed at helping state chapters raise money for local chestnut restoration projects. While Sewickley, PA will have the honor as being known as Restoration Branch #1, we are pleased to report that Restoration Branch #2 is underway. **Jeff Krause of Huntingdon, PA** is in the process of gathering committee members and planning an event in the Huntington county area. The event is scheduled for the summer of 2010. **If you would like to attend, or help Jeff with the event contact him at :jeff.krause@usace.army.mil or his event chairperson: Lori Krause at 814- 643-2372**

Goals of TACF Restoration Branch

- Share the story of the American chestnut with your local community
- Recruit new members to help work on local restoration and breeding projects
- Provide opportunity for the local community to become involved locally with TACF conservation efforts
- Provide information to the local community about the chestnut restoration. Raise funds to support the foundation goals at the local, state, and national level

The concept of the Restoration Branch is simple; host an annual dinner or event. Attendees purchase a ticket to attend the event and the cost of the ticket includes TACF membership and any other costs, such as the meal, are included in the ticket price.

Interested in hosting an event in your area?

Contact Sue Oram at 814-863-7192.

PA-TACF 2010 Board of Representatives

Officers:

President, R. Alex Day
Vice President, Tim Eck
Past President, Chandis Klinger

Board Members:

Dylan Jenkins
Bill Lord
Susan Smith
Edie Shapira
Alan Tumblin
Jim Walizer

Appointed Members:

Tracey Coulter, DCNR Representative
Jim Egenrieder, Treasurer
Ron Farr, NJ Representative
Sara Fitzsimmons, Science Coordinator
Sue Oram, Secretary

Chandis Klinger is seeking nominees for the 2011-2012 PA-TACF Vice President position. If you are interested in the position or would like to nominate someone contact Chandis at chandis@evenlink.com or 570-837-0457

Paul Lupo takes one of our orchard wagon tours out at Ag Progress Days, Penn State. Demand for the tours exceeded seating space this year. Thanks to Bill Lord, Larry Patchel, Alex Day, Sara Fitzsimmons, and Tracey Harpster for leading this year's groups, and Penn State for making tour announcements and including us in their Ag Progress Days brochure.

To the American Chestnut Tree
By Bill Lord

Once upon a time, a
Sublime
In stature, strength and beauty,
In pristine stands
Covered vale and mountain land.

All of Appalachia and more,
Near one in four
Among hardwood and conifer.

Cherished by the pioneers,
Without peer
To build their homes
From roof to floor
From door to door,
And all the furniture within;
Bed, cabinet, chair and bin,
And
Essential to their farm's defense,
The time defying rail fence.

Our forefathers providently saved
A glade
Of chestnut, a natural orchard in posterity,
A gleeful leafy green in spring,
Harbingering
The bloom in June, July.
A lovely summer sight arrayed
In creamy tassel-ate cascades.

In autumn a treat of tasty nuts
On the ground in open burs
Easy pickin's for harvesters, a feast
For man and beast.

Long centuries
These vintage trees
Were part
Of America's heart
And folklore

Then came sudden pestilence and war,
An alien fungus blight
Blistering trunk and branch with fatal wounds, a dismal sight
Invading every forest, farm and town.

Among the greenery of the woods
The dead trees stood
Leafless and gray
Yet so resistant to decay, to persevere
For rails, pulp and tannin
Fifty years.

Is the day of the chestnut over and done?
Who has ever seen one?

Who, strolling along Chestnut Street
Wading in Chestnut Creek
Crossing over Chestnut Bridge
Climbing up Chestnut Ridge,
Knows the Tree they are named for?

Gone for how many years
50, 60, a 100 or more?

But what is this we hear?
The American chestnut is being revived
From spindly sprouts that still survive
In the bleak light of the forest shade
Stunted and lowly, but stubborn and live.
Sitting tight, ignored by the blight.

Wherever the forest overhead is cleared, the sprouts rear
to the sun,
A source of pollen
For a few years, then
The lethal blight appears
again.

Each tree dies, new sprouts arise.
This is a survival cycle still repeating,
Debilitating and ever eating
The vigor
of the roots by such rigor.

Scientists,
With hair (if they have any) long turned grey
Inspired by memories of former days
Are applying a method carefully planned
To reunite the Tree with our land.

The Plan is now well underway
On a farm near Virginia's Blue Ridge Plateau
Where thousands of chestnut seedlings grow.
Where one learned, hard working man
Is in charge of the Plan
And the precise but tedious modes
To successfully fight
The still present and virulent blight.

Skills, radiant with rapture
Radiate to regimental Chapters,
Dedicated legions
Fulfilling the Plan in their regions

But war, and this is war, is won by funding.
Funding for research and application,
Funding for the unforeseen situation,
Funding for labs to determine an illusive factor,
And for something as plain and Essential
As an additional tractor.

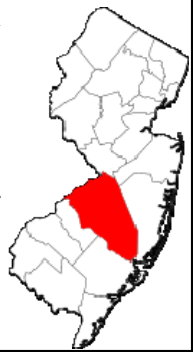
In the dawn of this century,
Yes, now and here
The man with the plan
And his volunteers
Are re-planting the forest, the farm and the town.

Don't let them down

Let's bring back the Tree sublime
And, Once Upon a Time.

NEWS FROM NEW JERSEY: SURVIVORS FOUND in BURLINGTON COUNTY

Tony Rosati reports that two new surviving chestnuts were located in the fall or 2009 in Burlington County. These are the first trees located in the southern part of the state. If you find a surviving tree, please report it. Our tree locator form can be downloaded at http://www.patacf.org



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at least 5 major inoculation dates:

Graves -near State College, PA: Tentatively scheduled for June 3,4, 7, or 8
Stokes State Forest - northern NJ, Tentatively scheduled for Sat., June 5.
Moshannon State Forest - actually at SB Elliot State Park in Penfield, PA: Tentatively scheduled for Friday, June 11 or Saturday, June 12.
Lark Nursery—west central New Jersey, Stockton, NJ: Scheduling to coincide w/ Stokes and dependent on Graves.
Carbaugh Nursery - central PA, Danville, PA. Tentatively scheduled for the week of June 7.

Volunteer Spotlight: Ethan Habrial

This issue's volunteer spotlight is dedicated to Ethan Habrial. Although Ethan hails from Stockertown, PA, he often volunteers to work at our many outreach displays and plantings across the state. Here's a snapshot of some of his volunteer work: Last year, he helped the chapter set-up/clean-up at our annual meeting in Hershey, planted at the Lancaster County House Rock orchard, worked for the chapter at the *Wonders of our Watershed* in Hazelton, provided outreach at Grey Towers during the *Festival of Wood*, and attended the *Mauch Chunch Lake Park* day, and the Farm show on our behalf. Thank you, Ethan for your time and dedication to chestnut restoration!

Ethan Habrial and Vicki Brownell, at the PA-TACF booth in Harrisburg.

Bill Lord, about to give an orchard tour at Penn State's Ag Progress Days (APD).

Raystown Lake volunteers with their record harvest

Paul Lobecker explains the backcross breeding program at the Silver Lake Nature Center's Greenfest.

Chandis Klinger recruits new members at the Farm show.

7,695 volunteer hours reported in 2009!

We wish to thank all of the volunteers that submitted their volunteer hours supporting chestnut restoration in 2009. Members were asked to report volunteer hours on the election ballots or through e-mail. We know there are more hours unreported, but here's how we stack up:

- **54,260 miles driven to support chestnut restoration (does not include breeding coordinator or intern miles!!)**
- **$3,086 worth of donated supplies**

My Experience With Hypovirulence: Part One

By PA Member, Mike Webb

Most of us involved in chestnut restoration work long enough have heard something about hypovirulence (hv). I've been using hv as a biological control of chestnut blight on certain trees to which I have access. It can be very effective with certain definite limitations. I was asked to write about what I've been doing. I'm happy to share this information.

I will begin with a short description. I recommend anyone who is interested read Bill Lord's monograph, "A History of Hypovirulence".[1] It is a good introduction to the subject, very entertaining and not too technical.

Hypovirulence is a state of reduced virulence of the blight fungus. The fungus is usually, but not always, hypovirulent because it is infected with a virus, more specifically a hypovirus.

There are 4 species of hypovirus but only 3 attenuate the virulence of the host. The host fungus may or may not be debilitated when growing in a Petri dish but it lacks the ability to cause lethal cankers on a tree. Hypovirulent cankers do not expand much. The tree is able to surround the infection with new growth, callus tissue, to stop its spread.

The hypovirus species CHV-1 was the first discovered. In a Petri dish these virus-infected blight strains lack the typical yellow-to-reddish-brown color developed by the healthy fungus. They remain nearly white. CHV-1 strains are the ones most often used for treating virulent cankers.

I think people like to use them because the lack of pigment makes a good indicator for hv. The other 2 hypovirus species that cause hv, CHV-2 and CHV-3, do not lack pigment.

A canker is treated by making a hole on the edge of the canker and filling it with a hypovirulent strain grown in a Petri dish. If the 2 strains are compatible the virus will be passed to the virulent strain causing the canker. It becomes hypovirulent. Canker expansion stops. Healing begins.

Incompatibility is the main problem. It is too long to go into here but if the 2 fungi strains are not compatible the virus can't infect the strain causing the canker. The fungi are said to belong to different vegetative compatibility groups, vcg's.

There are many groups in any given woodlot. One way blight reproduces is by wind-borne sexual spores so there is a steady turn over of vcg's with new strains becoming common and old ones diminishing.

The chance of success when treating a canker with a randomly chosen hypovirulent strain is poor. The chances of hv becoming the dominant form of blight when there is a steady turn over of vcg's are less then poor. But that doesn't mean we can't have some success.

"A canker is treated by making a hole on the edge of the canker and filling it-with a hypovirulent strain grown in a petri dish"

By using an inoculum mixture made of hypovirulent strains in different vcg's it is possible to achieve a high conversion rate to hypovirulent. We just have to treat the trees one by one, canker by canker. If that seems laborious consider the effort needed to do the same thing by mud-packing.

I began using hv on a large scale after watching the MD Chapter treat trees in 2 orchards with a mixture of 7 different strains. It was easy and fun. I knew trees that could be helped this way.

Essie (MD Chapter President) and Harold Burnworth offered to show me how to grow the fungus cultures and prepare the inoculum. I took them up on it and drove to their home in early 2008. They are gracious hosts. They provided lunch and taught me what I needed to know.

I work primarily with the trees I have in my yard, a few on the property of a friend and on PA Game Land 43. I've treated other trees but it is easy to spread my efforts too thin.

I had to get a permit to work on the PAGL43 trees. While the weather was still too cold and I was waiting on the permit I took a census of the trees. My ambition was to know where the trees were so I wouldn't spend time looking for them when I was

ready to inoculate. I stopped when I had about 516 trees with GPS coordinates. I counted everything chestnut and alive no matter how small or close to dead. I got the permit, renewable yearly, and was ready. After 2 years of trial, I have a system that works for me.

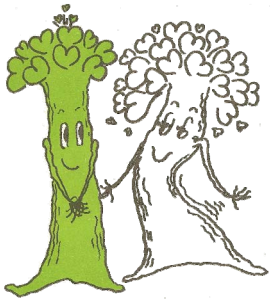
****STAY TUNED FOR Part 2 IN THE NEXT EDITION ****

1. Bill Lord, **A History of Hypovirulence**, http://chestnut.cas.psu.edu/blight.htm
2. http://www.culturemediasupplies.com/
3. Puhalla, John E.; Anagnostakis, Sandra L. **Genetics and nutritional requirements of Endothia parasitica.** Phytopathology (1971), 61(2), 169-73.
4. Mooji, Diana L., Master of Science thesis, **A prescriptive approach to using hypovirulence as a biological control of chestnut blight caused by Cryphonectria parasitica**. The University of Guelph, 1997.

Mike has been a member of PA-TACF since 1986.

Breeding Program Update

Sara Fitzsimmons



PA-TACFs ROLE in RESTORATION

With the distribution of the B3F3 nuts on the horizon, TACF has started to look forward to planning for restoration. A necessary requirement of restoration will be the testing of advanced materials/stock to make sure that they are sound enough to be self-sustaining in the wild.

The primary method for testing will follow the Testing Protocol established by TACFs Testing Task Force, which was essentially a subcommittee of the TACF Science Cabinet, in 2002. The findings of the task force suggest a plan whereby the following are planted at a spacing of 8' x 8' in an open or only lightly shaded area.

25 trees from B3F3 family #1
25 trees from B3F3 family #2
25 trees from B3F3 family #3
25 trees from B3F3 family #4
25 trees from B3F3 family #5
(Minimum of five B3F3 families; more can be added)
50 American chestnuts
(25 individuals for each replication).
50 Chinese chestnuts
(25 individuals for each replication).

As a part of the **restoration branch** concept, PA-TACF will be looking to assist TACF in that testing. By working with groups throughout Pennsylvania, New Jersey, and Delaware, PA-TACF hopes to raise enough funds to create a set of well-protected (i.e. deer fenced) and properly established testing plots throughout the region.

NUT PRODUCTION AT THE ARBORETUM?

Falling right in-line with the testing task force policy, a common question regards when PA-TACF will start producing nuts from the PSU Arboretum. Though a handful of nuts were produce a couple of years ago, nut production has since been limited.

With the recent inoculation and selection of two more lines of trees, nut production should restart in the fall of 2010, again with a handful, likely in the realm of 100 – 200. In 2011, more lines are scheduled to be inoculated and will increase production. Based on current stocking levels and growth rates, PA-TACF can expect nut production around 1000 or more by 2013. These nuts can help supplement any testing of Meadowview material in testing plots established by restoration branches until such time that the Chapter has enough nut production to complete full tests with local material.

One of my major themes for this season is that we need help!! We're going to be drowning in all sorts of events this summer including the following events.

Be sure to sign up to the PA Growers List to get the most up-to-date scheduling of volunteer events. Simply send a blank e-mail to:
PA-TACF-subscribe-request@lists.psu.edu

PLANTINGS

There will be several planting activities throughout the state. Tim Eck will again be planting several hundred CMS seed in Lancaster County and could use your help on April 25 and 26.

At the Penn State Arboretum, we've got over 2000 seedlings to plant.. Remember how the raccoons got them last year? Well, we're going to try and avoid that this year by planting seedlings. But that means it's going to take more effort than usual to get all those seedlings in the ground. We're planning for planting days at the Arboretum for late May and early June. Keep an eye on the PA-TACF mailing list for more details and specific dates.

INOCULATIONS

And with inoculations occurring right on the heels of a major seedling planting effort, we will need additional help for inoculations, especially since we're going to have

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Pennsylvania Chapter
The American Chestnut Foundation
206 Forest Resources Lab
University Park, PA 16802

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The Chestnut Tree Newsletter

VP Tim Eck at the Farm Show

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secure some of these potentially blight-resistant hybrid seeds this year, more will be grown this year and we can look forward to their distribution late this fall.

So, get ready for another round of Meadowview-grown seeds this fall, 2010. Watch for the news of the 2010 crop in future additions of *The Bark* or in your mail. Finally, those folks who want to get a jump on spring should plan to join other PA Chapter members at our annual spring growers meeting, which will be held again at Hershey Farms Environmental Center on Saturday, March 20th, 2010, from 8:30 am till 3:30pm. We will have several interesting speakers and the usual array of chestnutty items for sale. So, please plan to join us for an interesting and fun-filled day of learning, eating and meeting new friends and old….Think Spring. -Alex Day

Chapter Calendar - 2010

February 4-6: :PASA conference, State College, PA

February 19 : Mid-Atlantic chapter SER Conference, New Brunswick, NJ

March 12-13: Exhibit/Presentation at PAEE conference, Bristol, PA

March 20: PA-TACF Spring Member Meeting, Hershey, PA

April 16—17: TACF Board and Cabinet meetings, Bristol, VA

April 24 –25: Lancaster County Conservancy/House Rock orchard planting weekend

May 6-7: Outdoor Heritage Days, Quemahoning Reservoir, Somerset County

July 24: PA Forest Stewards Meeting. Orchard Tours to Graves and Kuhns, Ag Progress Days Site

Summer 2010: Restoration Branch, Huntingdon County

October 2010-TACF Annual Meeting, Shepherdstown, WV.