

Spring Growers Meeting March 17 - Hershey, PA



Our spring growers meeting will be held Saturday, March 17 at the Milton B. Hershey School Environmental Center, Hershey, PA. We'll start our day with a coffee reception at 8:00 a.m., followed by a day of engaging information sharing and workshops. The all-day chestnut meeting, beverages, and lunch will be provided for a measly \$10.00 donation¹.

the Meadowview Research Farms

Dr. Bob Paris poses at Our featured speaker is Dr. Robert L. Paris, Research Geneticist, TACF Meadowview Research Farms. Bob's

presentation will be Strengthening the Breeding Program. Topics included are: breeding basics, exploring new sources of resistance, and some chestnut identification.

Bob has extensive background in executing breeding programs, including developing disease-resistant soybeans with the USDA Agricultural Research Service. Bob holds a Ph.D. in Plant Breeding and Genetics from Virginia Tech, where he also served as a Research Associate, and a Master of Science degree in the same field from the University of Tennessee. Bob's primary responsibilities at Meadowview include increasing the number of sources of resistance to blight and advance testing of progeny in field and forest environments. Bob lives in in Meadowview, VA, with his wife, Debbie, and four children.

NEED MORE REASONS TO COME TO THE **SPRING GROWERS MEETING?**

If you are a new member, or interested in becoming a member, the meeting is a great place to learn about PA-TACF and, most importantly, how to grow chestnuts and further assist in American chestnut restoration

And don't forget that we distribute seed and many different types of tools and growing supplies during this meeting. Don't miss out!



Directions to our Spring Growers Meeting:

- From US 322, turn onto Meadow Lane
- 2. Continue on Meadow Lane to for .05 mile to Crest Lane
- 3. Turn right to the Environmental Center

SPRING MEETING TOPICS and WORKSHOPS

- Update on PA-TACF activities
- Bill Lord: An Introduction to the Reports of the Commission Pennsylvania Chestnut Blight $(tentative)^2$
- Planting and Growing American chestnuts
- Pests and Diseases of American chestnut
- Pollination of chestnuts
- Using Microsoft Excel to track your orchard data

¹We know the price for the meeting has been a steady \$5.00 for many years. But the price of gas and inflation over the past 10 years have finally caught up to the Chapter. Please help us cover the costs of this meeting. ²Visit <u>http://chestnut.cas.psu.edu/PaBC.htm</u> for more info.

Calendar of Events.

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Feb 17	Cambria County Chestnut Workshops
March 3	Mercer County Chestnut Workshops
March 17	Spring Growers Meeting in Hershey PA
April 21	Earth Day—several events
April 20-22	TACF Board and Cabinet Meetings
June 9-10	East Coast Environmental E ⁺ Fair
June	Inoculation Season
June-July	Pollination Season
June 16	NJ Member meeting, Middletown, NJ

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President's Corner

By Chandis Klinger

I am honored to be your president for the next two

years. When I accepted to be the Vice President Nominee for the next two years, little did I know that a turn of events would move me to become president so quickly. I am fortunate to have a dedicated support staff at PSU and the many dedicated volunteers from the 900+ chapter members who make this chapter what it is.

Much progress has been made since the early days of the early 1990's when the chapter was reorganized. More than 100 orchards have been planted by volunteers to give us over 29,000 seeds toward starting a B3-F2 Clapper breeding orchard at the PSU arboretum. This orchard will be screened to produce B3-F3 seeds that are highly blight resistant. These nuts will be entering a test program to determine if sufficient blight resistant trees with American characteristics are obtained. The length of time before release to the public has not been determined. It is noteworthy that the national TACF research farm has produced a few highly blight resistant nuts that are entering the test program. We need to continue with the progress to obtain more resistant seed diversity.

We submitted three grant proposals to advance the program. One was not funded and we received feedback to improve our success next year. We were successful to receive a \$5000 grant from NORCROSS Wildlife Foundation toward the purchase of a truck for our breeding coordinator. We are in the process of procuring the truck. We expect to hear soon from the third grantor, PA Department of Community and Economic Development (DCED).

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The fall meeting had a very interesting speaker. Lee Stover from The Pennsylvania State University gave a presentation describing how to identify different trees by looking at the cell structure. Normally one looks at the bark and leaves; but after the log is sawed into lumber not all wood is easily identifiable. After the presentation, we went out to the B3F1 chestnut orchard started and maintained by the Silver Ridge Hunting Club. We are thankful for the use of their facility. At the spring meeting (held at Hershey, PA on March 17), we will have Dr Bob Paris speak to us about additional sources of resistance.

This past November, President Tim Phelps accepted new employment at the Tennessee Division of Forestry in Nashville, Tennessee. While he is in another state, he will continue as our past president to provide advice. In early January 2007, we already had him connected in on telecom conference call. We will miss his presence in our activities. He spent nearly a year updating the Articles of Organization and By-Laws for our chapter. He is responsible for establishing and maintaining two orchards at PSU among many other achievements and guiding us for the last several years.

We wish him much success in his career.



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Prestigious Joseph T. Rothrock Award presented to DCNR Forester R. Alexander Day

The PA Bureau of Forestry's Alex Day received the Pennsylvania Forestry Association's Dr. Joseph Trimble Rothrock Conservationist of the Year Award at the asso-



ciation's 120th Annual Meeting in Harrisburg on September 22.

Dr. Rothrock, often referred to as the "Father of Forestry in Pennsylvania," was the first president of The Pennsylvania Forestry Association—the nation's oldest state organization devoted to forest conservation. The award, a tribute and affirmation of the life and contributions of Dr. Rothrock, recognizes the recipient's outstanding contributions to the conservation of the Com-



monwealth's forest resource. Alex received the award for his" unselfish labor of love as few men have given in support of the land and forests of Penn's Woods...a Forestry Ambassador in the Rothrock tradition."

Congratulations Alex!

HELP PA-TACF STAY COOL!

Due to equipment failure, PA-TACF is storing chestnut seed and seedlings 20 miles away at Penn Nursery. It is our hope to obtain a new refrigerator for



our chestnuts as soon as possible. Initial price estimates for a double-door refrigerator are coming in between \$5,000-7,000.

If you know of a supplier, or if you can help negotiate a good deal for us, please contact us at 814-863-7192.

Meet Your New Chapter Officers

Thank you for sending in your ballot cards! **36%** of our members returned their ballots. The following people are serving on your Board:

- Chandis Klinger, President (2007-2008) Middleburg, PA
- Alex Day, Vice President (2007-2008) Spring Mills, PA
- Tim Phelps, Past President (2007-2008) Nashville, TN
- Bob Summersgill, (2005-2006) Warren, NJ
- Jim Walizer (2007-2008) Bellefonte, PA
- Jim Egenrieder (2007-2008) Harrisburg, PA
- James "Bill" Montague (2007-2008) Liberty, PA
- Alan Tumblin (2006-2007) Newville,PA
- Dylan Jenkins (2006-2007) Williamsport, PA

Appointed Positions

- Sara Fitzsimmons, PA-TACF Tree Breeding Program Coordinator State College, PA
- Tim Eck, Treasurer Washington Boro, PA
- Sue Oram, Secretary, Events Chair Port Matilda, PA

If you would like to be a board candidate, or know someone you would like to nominate for the board in the future, please contact PA-TACF at the Leffel Center.





We want you to read your newsletter cover to cover, so in this issue we've hidden Char-

lie Chestnut within our pages. If you are the first member to call or e-mail the Leffel Center with his location, you will win a TACF static cling window decal. Call 814 -863-7192 or email mail@patacf.org. Good luck!

SEARCHING FOR A NON-TOXIC HERBICIDE By Chandis Klinger

When unwanted low resistant chestnut trees are removed, it is common practice to rouge out the tree. Another method is to cut off the tree and paint the stump with Roundup or Turdon RTU to kill the root system. This could be easily done

at the PSU arboretum except these products can not be used because the arboretum is in a PSU watershed. It would be nice if there was a non-toxic herbicide.

While traveling through North Carolina on vacation the other year, I stopped at a Civil War Museum. I noticed an employee spraying weedy vegetation among the shrubbery. I asked if he was using Roundup. His response was "No, he is not permitted to use toxic herbicides". I asked what he was using. He responded the solution was: water, vinegar, and lemon juice in parts ratio of 1, 2, and 3. I did not having a pen and paper to properly record the information, so I relied on my memory. I thought this would be good to use at the PSU arboretum.

This past summer I had some trees to be removed and I tried a mixture as follows; 3 parts lemon juice, 2 parts vinegar, and 1 part water. I had about a pint of mixture. I cut the trees off at ground level and spread the mixture on the cut off stump. I checked the stumps 6 weeks later and found that none of the stumps were killed. The stumps were growing sprouts and the deer were eating off the sprouts.

I also sprinkled some of the mixture on oak stump sprouts. The only effect was a discoloration where the mixture touched the leaves. Other sprouts continued to grow. If anyone out there has experience with nontoxic herbicides that we could use where the toxic herbicides are forbidden, please send it to the Leffel Center at PSU.

In response to Chandis' article, our intern, Maria Nowicka ,researched non-toxic pesticides. The first

YES! Put me on the PA-TACF volunteer list for 2007						
Coordinating Volunteers in my region Outreach/Event (Farm Show, Ag Prog Fundraising / Crant Writing Pollinating / Harvesting Planting Orchard Maintenance Presentation to groups	rress, etc.)					
Name:	Comments:					
E-mail:						
Phone:						
JOIN the PA-TACF e-mail list: http://chestnut.cas.psu.edu						

part of her research follows in the next column.

The Use and Efficiency of Environmentally-Friendly Weed Control (Part 1) - by Maria Nowicka

Weed control in orchards and tree plantings is a very important issue. Although non-organic chemical herbicides like Roundup or Garlon can be incredibly effective, we are not everywhere allowed to use them. In these cases, one has to look for alternative ways for controlling unwanted forms of vegetation.

In general, we can divide organic weed control methods in three groups: 1) chemical, 2) mechanical/physical methods, and 3) "proactive". Here, chemical includes organic herbicide, mechanical/physical methods include hand-weeding and flaming, and the final group includes products such as mulch, black plastic, and landscape fabric. In this first edition, the chemical control will be covered. In subsequent editions of this newsletter, we will cover the other two methods in more detail. There are many different variations of acetic or acetic/citric acid-based liquids and this kind of treatment seems to be the most popular. Below are several examples:

- The mix of vinegar and lemon juice in ratio of 4 parts of vinegar and 1 part of lemon juice. It is recommended to spray it directly on the weed when the sun is out. The treatment in most cases must be repeated 2-3 times during the vegetation season.
- Straight vinegar sprayed directly on the weeds in warm, sunny day.
- The 7:4 mixture of vinegar and lemon juice

Some of the sources also recommend the mixture of vinegar, liquid soap and gin (but who would use the gin *that* way?), or mixture of vinegar, salt and water. There are also commercial vinegar-based herbicides, for example BurnoutTM or BioganicTM. It is very important to not overuse vinegar and salt-based herbicides-too strong saturation can cause that nothing would grow in the treated area for several years.

From non-vinegar-based substances there were used mixture of dish soap, ammonia and instant tea or straight baking soda. According to scientific resources, good effect in weed control shows the corn

Don't forget to fill out your postcard and mail it in to the PA Chapter office for your chance to volunteer at upcoming Chapter events.

gluten meal, however it is not so well rated by orchard and vineyard owners *<editor's note: corn gluten is more of a preemergent herbicide than a con-* PAGE TPA7

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(Continued from page 4) tact herbicide. The timing of application needs to be precise for it to be effective>.

Recent studies also examined essential oils, for example clove or cinnamon oil, as potential herbicides, but their effectiveness has not yet been fully analyzed. Some hopes are connected with the allelopatic¹ properties of some plants. And interesting study has been made by Dr. Jorge Vivanco of Colorado State University, who isolated the "catechin" from spotted knapweed Centaurea maculosa, which shows strong herbicidal properties.

All of these organic herbicides are contact herbicides. Contact herbicides kill only parts of plants above the ground level, so there is need to repeat the treatment several times per year, especially if it's about the grasses or dandelions, which have very good developed roots. Because these methods only work on the surfaces they touch, good coverage is essential. To improve efficiency, it is good to break down bigger weeds before spraying.

Weed control is most important in the spring time, before the weeds start to bloom. Depending on situation, either spray bottles or backpack-sprayer can be used, but in both cases plastic equipment is recommended (all kinds of acids and salt are corrosive to metal).

¹Allelopathy is a term describing the effect of chemicals that are excreted from a plant to cause either direct or indirect harm to neighboring plants by negatively affecting their germination, growth or development.

Chapter Asks for Donations to Cover **Spring Seed and Supply Shipments**

We do our best to keep our overhead low, by recycling boxes, envelopes, and packing materials, however, our shipping costs are still a big expense. If you value these member benefits, please consider making an additional gift to PA-TACF to support our ongoing operational costs.

The Chapter depends upon donations, grants and membership dues to sustain the chestnut research and breeding program as well as education, and membership support and communication, such as the planting manual you receive with your shipment of seed. PA-TACF is incorporated in Pennsylvania as a non-profit organization under the IRS 501 (c) (3) rules. Donations tax deductible. are THANK YOU FOR YOUR ONGOING SUPPORT!

PA-TACF Provides Chestnut Education and Outreach at the PA Farm Show



Tom Pugel listens to a visitor about the chestnuts he rememhers

AMERICAN CHESTNUT

The Pennsylvania Farm Show is a marvelous showcase for

Pennsylvania agriculture. Over the years, this event has become one of the most celebrated in the country,

Juliet Lane, Chandis Klinger, a n d Sara Fitzsimmons ready for questions.

attracting more than 400,000 spectators, offering residents and visitors alike an opportunity to experience the impact agriculture has on the commonwealth. The Farm show provides PA-TACF an excellent opportunity to teach the public about the history and impact of the American chestnut, and how our volunteers throughout the state are working to bring it back.

Thank you PA-TACF members and volunteers for your support and time dedication during the 2007 **Pennsylvania Farm Show:**

Alan Tumblin, Dave Armstrong, Tracy Coulter, Jim Egenrieder, Tim and Liv Eck, George Perry, Ethan Habrial, Bob Summersgill, Dylan Jenkins, Les McCurdy, Rick Entrekin, Tom Paris, Tom Pugel, Tom Dissinger, Charles Sippel, Sue Oram, Chandis Klinger, Sara Fitzsimmons, Peter and Juliet Lane, Mike Waldron, Mike Webb, Chris Ditlow, and Bill Montague.



It takes many members to make a PA-TACF event a success. Please take a moment and complete the enclosed volunteer postcard and let us know when and how you can the chapter this year.

Charlie Sippel arranges display items during the Farm Show

The Chestnut Tree

PA-TACF Receives Tree Locator Form via Kosovo



You probably can't see him, but that's Jason there at the base of the tree.



Jason Jones, with a European chestnut friend in Macedonia

When civilian contractor Jason Jones called home from Kosovo, Yugoslavia , last fall his father, Robert Jones (of

Dover, Ohio) told him about an American chestnut tree he found "hanging out over the road" near Clearfield, Pennsylvania. Both father and son were excited about their find—a rare, living American chestnut tree, and thought they should report it.

Jason found the Pennsylvania Chapter of the American Chestnut Foundation (PA-TACF) website, **www.patacf.org**, and learned the chapter tracks the locations of living chestnuts for the regional tree breeding program. Jason contacted PA -TACF with the location of the tree. Its probably the first Pennsylvania tree locator form we've had submitted from Europe. Thank you Jason and Robert for supporting our chestnut restoration program from afar!

Chestnuts featured on NPR Affiliate

Sara Fitzsimmons visited the studios of WVIA-FM (an NPR affiliate) last fall. The interview aired the day after Thanksgiving, and is now available on



the WVIA website. You can listen to the interview by downloading the MP3 file from here:<u>www.wvia.org</u>

- Click on the "podcast" link on the the right side of WVIA's homepage.
- Click on "Artscene with Erika Funke" on the right column.
- Click on "Sara Fitzsimmons on Chestnut Trees" to access the MP3 audio file.



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VOLUNTEER SPOTLIGHT TOM PUGEL, REIGELSVILLE

The editors here at *The Chest-nut Tree* have selected Tom Pugel for this edition's Volunteer spotlight because of the recent breeding milestone reached. Tom has now taken two separate advanced backcross orchards, each on opposite sides of Pennsylvania, and brought them through the breeding program, from breeding, planting, inoculation, selection, and subsequent harvest of seed from them.



In 1997, Tom planted his first backcross orchard in Reels Corners, PA. That orchard was inoculated in 2002. In 2000, he planted a second backcross orchard in Riegelsville, PA, an orchard that was inoculated in 2005. Both orchards are now producing BC3F2 seed.

He's not only one of our most prolific growers, but also one of our most prolific pollinators. Since 1997, Tom has collected almost 14,000 seed for our efforts.

Tom has been growing chestnuts since the 1970s. He became a member of TACF in February 1992 (pretty early on!) and was a founding member of the Pennsylvania Chapter.

Tom tapes all meetings he goes to and makes copies available to the Chapter (miss a meeting? Visit our inventory at:<u>http://chestnut.cas.psu.edu/</u> <u>Administrative.html</u>). All of those meetings used to be on VHS tapes, but Tom, always one to stay on the cutting edge of technology, spent the time to convert all of those tapes to DVD copies!

If you see a Chevy Tahoe with a large chestnut decal on the side, that's probably Tom. He's always



happy spread the word of our work.

These are only a few of Tom's accomplishments — all we can fit here! Thank you for all of your hard work, results, and dedication over many years! The Chestnut Tree

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March 2007

	Туре	Average	Number	Percent	Number			RES	ISTAI	NCE R/	ATING	iS	
BREEDING	Resistant Parent	Rating	Inoculated	Survival	Planted	1.5	2	2.5	3	3.5	4	4.5	5
PROGRAM	American	4.00	32	67%	215				4	3	7	3	4
	BC3	3.71	361	63%	1534		1	10	66	102	106	52	9
	GR331	3.50	7	52%	62				2	2	1	1	
SARA	AB247	3.58	6	18%	39				5	5	15	8	1
FITZSIMMONS	GL367 **	3.59	27	95%	57		1	8	28	41	35	13	4
	AB427	3.60	134	71%	346			1	16	25	24	19	2
Through the 2006	CL53	3.77	16	44%	100				1	8	4	1	1
planting and grow-	VA307	3.79	15	64%	103				3	2	1	1	
ing season, the PA	BE325	3.79	92	60%	534			1	6	10	8	1	1
Chapter stayed on	WV1	3.85	22	50%	38				3	3	5	3	
course with both its regional breed-	AB393	3.93	33	69%	137				2	5	6	4	
ing goals as well	WV419	4.00	9	63%	110					1	7	1	
as with the activi-	BE400		0	50%	2								
ties associated	GL96		0	100%	6								
with the CMS pro-	Chinese	2.50	19	84%	37	2	5	8	7	1			
gram.	F1	3.06	8	58%	24		1	1	3	4			
HARVEST 2006	Grand Total	3.64	420	64%	1810	2	8	22	84	117	114	55	14

HARVEST 2006

The Chapter harvested almost 10,000 seed throughout the Chapter this year, down from about 12,000 seed harvested last year (Table I). The biggest pinch felt around the Chapter was the significant decrease in openpollinated (op) seed, especially op American seed. The Chapter has a continued need for these seed for many purposes from testing to planting presentations. If you find a tree, please help us by following it to harvest and collecting seed in the fall.

SPECIAL STUDIES

In the 2006 pollination season, PA-TACF attempted 15 lines of breeding material derived from advanced backcross 'Graves' and 'Clapper' material from Meadowview. The goal of this stock is to screen progeny quickly with

Seed_Type	2005 Harvest	2006 Harvest	Change
American	7512	1250	-6262
BC2	283	88	-195
BC2F3	0	637	637
BC3	466	594	128
BC3F2	1399	3687	2288
BC4	113	802	689
Chinese	1375	180	-1195
Chinkapin	90	50	-40
F1	459	706	247
Misc	14	1317	1303
Grand Total	11711	9261	-2450

Table I. PA-TACF harvest tallies for 2005 and 2006 seasons.

Carolinas chapter member Joe James in order to identify lines

Table II. Summary of 2006 PA-TACF inoculation season. ** The GL367 x MI300 line is a Maryland Chapter line bred at the Meadowview Research Farms.

with potential resistance to Phytophthora cinnamomi. Over 1,000 seeds were gathered from PA-TACF mother tree orchards -- the Mill Grove Orchard in Audubon and the Armstrong Orchard in Hanover -- toward this effort.

In addition, PA-TACF member Alan Tumblin helped harvest hundreds of seeds from the Reineman orchard in Perry County that will go toward a seed predation study by Dr. Michael Steele at Wilkes University.

2006 Inoculation - Preliminary RATING SEASON

We inoculated at four different orchards this past summer: Codorus State Park, Brogue, Thorpewood (in Thurmont, MD), and the Kuhns orchards. Table 2 summarizes the lines inoculated and also reports the preliminary resistance ratings.

At the Kuhns orchard, only half of the trees we of a proper size to be inoculated, but because of the close spacing $(5' \times 5')$, trees needed to be eliminated so that the remaining trees to reach inoculation size (typically 1.5" -2" dbh (diameter at breast height = 4.5' from the ground).

ACTIVITIES and NEEDS for 2007

There will be several inoculation opportunities in 2007 including orchards in Clinton County, Westmoreland



Pennsylvania Chapter The American Chestnut Foundation

The Pennsylvania State University 206 Forest Resource Lab University Park, PA 16802

The Chestnut Tree Newsletter

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County, Centre County, Northumberland County, Clearfield County, and Delaware (state).

As always, we have a need for new orchard locations. If vou would like to establish an orchard, please be sure to attend our SPRING GROWERS MEETING on **MARCH 17.**

We definitely need NEW American chestnut mother trees. You all have been great about sending in the forms, but we need you to act upon those trees once you find them. Help out by either performing controlled pollinations on them or by at least harvesting open-pollinated seed from them during the harvest season.

Northern Appalachian Region

For more

Table III. Seed Harvest Summary for the

			-				
information on breeding	Seed_Type	IN	MD	NJ	NY	ОН	PA
and growing	American	321	1100		14717	73	1250
chestnuts,	BC2		343				88
please visit	BC2F3						637
h <u>ttp://</u>	BC3	581	153			143	594
<u>chestnut.</u>	BC3F2						3687
<u>cas.psu.edu/</u> <u>breeding.htm</u>	BC4	678	1824				802
and <u>http://</u>	Chinese		2776	30			180
www.acf.org/	F1		61	67		14	706
<u>r_r.htm</u>	Misc						1317
	Grand Total	1580	6257	97	14717	230	9261



With the hiring of several new staff by The American Chestnut Foundation early in 2006, the organizational structure of how TACF manages the Regional Breeding program has shifted outward. In the past, about the only organizational unit was the state Chapter. Now, with almost the entire east coast covered by TACF Chapters, and many neighboring states often collaborating on projects, there is now a intermediate unit of organization called the "Region".

In the future, you will most likely begin to see more information being presented on other Regional Chapters including Indiana, Ohio, Maryland, and New York.¹ The other regions include New England and the Southern Appalachians.

As always, if you have questions about any of the material presented here, or have ideas or suggestions about what we should print in The Chestnut Tree, please let us know.