

Chestnut Tree



The Pennsylvania Chapter of
The American Chestnut Foundation

PA-TACF Contact Information:

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THE FALL MEETING WILL PAY TRIBUTE TO DR. BOB AND ANN LEFFEL by Dave Armstrong

Our fall meeting will be held at our one of our favorite locations, the NPC, Inc (also known as News Printing Company) Farm near Roaring Spring on October the 8th at 8:00 am. The theme of the meeting will be a tribute to the two folks who have been the "sparks" of the Pennsylvania Chapter during the past twelve years: Dr. Robert Leffel, Chapter Scientist and his wife Ann Leffel, chapter organizer, past president and chief tree breeding coordinator. Bob and Ann have retired from chestnut work to a well deserved rest and to enjoy the farm and family life. We miss their "adult supervision" as well as enthusiastic ideas and innovations.

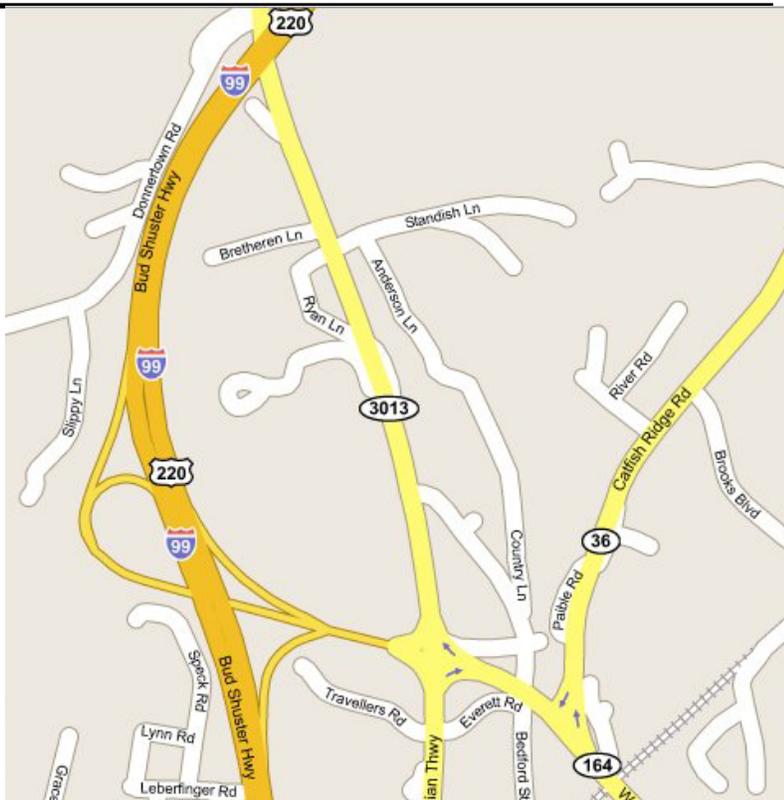
If you have some amusing stories or inspirational encounters with Bob or Ann please let me know and I will get you on the schedule. (Dave Armstrong, darm@blazenet.net or 717-632-8669)

Our meeting agenda will consist of :

1. A tribute to the Leffels - stories, photos and video tapes of Bob's & Ann's chestnut work;
2. A speaker that will review tree breeding methods and practices;
3. Workshops of nut storage, nut and seedling planting and PA-TACF orchard programs.

Note: if you have collected seed for use by the chapter in its breeding chestnut breeding concerns, bring them to the Fall Meeting to facilitate proper storage and subsequent distribution in the spring.

We also plan to have a silent auction of chestnut crafts so bring your best pieces to auction. Proceeds will go toward our breeding program and chestnut education. It will be a great meeting. Our day will start at 8:00 am with a reception coffee. Please join us!



DIRECTIONS to PA-TACF FALL MEETING

1. From I-80: Take exit 158 to I-99/Rt.220 South. Go 57 miles to Exit 23, the exit for Route 164. Take a Left onto Route 36 and travel 1.5 miles to the Farm.
2. From the PA Turnpike: Take exit 146 to I-99/Rt. 220 North. Go 23 miles to Exit 23, the exit for Route 164. Take a Left onto Route 36 and travel 1.5 miles to the Farm.

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CALENDAR OF EVENTS:

Late September/early Oct | Harvest Season
September 24-25 | Wilds Outdoor Festival | Williamsport, PA
October 8 | PA-TACF Fall Meeting | Roaring Spring, PA
10/28—10/31 | TACF Annual Meeting | Lexington, KY
January 7-14 | PA Farm Show | Harrisburg, PA
August 2006 | Ag Progress Days | Rock Springs, PA



President's Corner

Summer/Fall 2005

Members of the Pennsylvania Chapter have been hard at work this year in getting the word out about our mission at expos, special events, and with interest groups, and we are planning for some great opportunities in the near future as well.

Our annual presence at Penn State's Ag Progress Days was another great success. We were able to tell the story of the chestnut and hear many visitors tell chestnut stories as well. Our wagon-ride tour of two local BC3 orchards continues to be a hit, and many folks have taken it multiple years in a row. The Timberr Expo, which was held at the same site as Ag Progress Days in mid-June, was poorly attended. However, our volunteers were able to talk with several folks with interests in PA forest products.

Two upcoming events include Wilds Outdoor Festival and Deer Management Problems and Solutions for PA Seminars. The Wilds Outdoor Festival will be held at Brandon Stadium in Williamsport, **September 24-25** from 10am to 5pm. The festival's goal is to introduce people to the wide variety of outdoor recreation, conservation and environmental activities in PA. The Deer Management Seminars, of which the PA Chapter is a co-sponsor, are entitled "Deer In Your Backyard: How To Deal With the Challenges of Overabundant Deer In Your Community". The seminars will be conducted at several locations throughout PA's more populated areas as follows:

September 10 - Delaware Valley College, Doylestown, Bucks County

September 17 - Westmoreland County Community College

September 24 - Dauphin County Agricultural and Natural Resource Center

October 1 - PPL Wallenpaupack Environmental Learning Center, Pike County

November 12 - Mill Grove Audubon Center** Montgomery County

A full list of speakers and directions to each seminar

HARVEST SEASON IS APPROACHING!!

In Pennsylvania, harvest time will come sometime around late September or early October. This is a *great* time to get out in the woods and enjoy the on-coming fall weather, but it's also an opportune time to scout for chestnut trees — fallen burs on the ground are sure signs of a resident chestnut tree.

If you've sent in a tree locator form and had a tree you know of identified by the chapter, collect chestnuts from it this fall and bring them to the fall meeting (see front page). If you find a new tree this harvest season, fill in a locator form and bring it along with your harvest and a leaf and twig sample from the tree. Locator forms may be obtained by contacting the Chapter (contact information may be found in the upper-right hand corner of the front page) or by going to <http://www.patacf.org> and downloading a form.



Seed from several species of chestnut trees are used for several purposes within the Chapter, and we're most excited about collecting seed from as many surviving American chestnut trees from around Pennsylvania

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can be found on our website, <http://www.patacf.org>.

In other news, our Board is exploring ways to attract students of various disciplines, but with interests in conservation, to join our mission. Incentives such as scholarships and awards are being considered. Also, by the time you receive this newsletter, the PA Chapter Chestnut Research and Operations Center will have opened at the Forest Resources Laboratory at Penn State University Park Campus. The Center will house our resident tree breeding coordinator, Sara Fitzsimmons, and a new part-time administrative assistant who will handle membership duties, data entry assistance, board correspondence, and other general Center operations. Please come by and take a look.

Tim Phelps

phone: 814-865-7228

*** Editor's Note: One of PA-TACF's original chestnut plantings was established on the grounds of Mill Grove, having been planted in 1996 and 1997. Now towering over 20 feet in height and about 4-5 inches in diameter, those American chestnuts are a sight to see!*

BREEDING PROGRAM UPDATE

-Sara Fitzsimmons

THE NATURE CONSERVANCY

So far, 2005 has been an exciting year for PA-TACF. First, our Chapter has officially joined forces with The Nature Conservancy (TNC). On a warm day in May, we planted over 200 nuts on TNC's West Branch Wilderness property** in Clinton County.

The seed planted that day included about 180 B3 seed from 2 lines of American x B2 crosses (Mahogany/Graves source of resistance), and 10 or so each of American, Chinese, and F1 checks.

Those TNC guys know how to throw a planting party, too! After we finished the planting, we toasted the new orchard with some fine champagne. In my mind, this should become standard procedure for all newly established orchards.

Many thanks go to TNC Forester Dylan Jenkins for coordinating this effort with us. Last October, he and George went to the site with their chainsaws and cleared out the 1-acre site (mostly chestnut oak and white pine). Shortly after that, they hired Utility Foresters, Inc. to clean out the remaining mountain laurel and blueberries and erect the 8ft. woven wire fence.. PA-TACF then provided the 2 foot plastic tree shelters, stakes, planting medium, and seed.

As of last update, we've had a germination rate hovering around 65%, but growth has been good — many trees are approaching 2 feet in height.

ECOSYSTEM LANDSCAPE UNITS - Additionally, Dylan and his associates at TNC are using the data points that we've collected on surviving American chestnuts as part of a large ecological study that can determine where potential restoration sites should be placed. They should be reporting their findings soon. So, keep those locator forms coming in to the Chapter! We need many exact locations of surviving American chestnuts as we can get!! Contact the Chapter for locator forms and more information.

INOCULATIONS - At member Tom Pugel's Reigelsville orchard, we inoculated almost 100 Clapper BC3 progeny. We will select the best performing individuals next May and use them for the breeding of BC3F2 progeny to be planted at the PSU Arboretum. I thank the volunteers who came to this event; we had no problems and finished up the inoculations by lunch



Dylan Jenkins (left) hangs a sign with Mike to advertise the newly planted Graves BC3 orchard at West Branch.

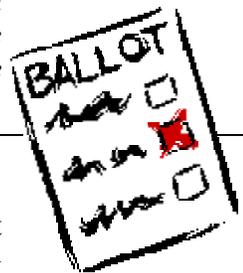
time.

And, speaking of the Arboretum, the Chapter has now inoculated almost 250 BC3F2 progeny. On a sunny day in early June, several volunteers came to this groundbreaking event for the Chapter. We look forward to selecting those individuals with Chinese-like resistance!!

POLLINATIONS - There will be more information in our February newsletter, after we have harvest counts, but I do want to note the efforts of our pollinators this season. And see page 6 for more information.

Also, it's worth noting that our Chapter president performed his first pollinations and inoculations this season — it's never too late to start! We hope you will come out and do the same next year. We will have a busy inoculation season and we're always searching for new pollinators around the state. Contact the Chapter to see how you can directly get involved in our efforts.

**To find out more about TNC and their efforts, visit their website at <http://www.nature.org>. To find out more about where the chestnuts were planted, enter "West Branch" in the search field on the website.



BOARD MEMBER

ELECTIONS IF you haven't already, you should be soon receiving your ballot for voting on PA-TACF Board members. This process is vital to the functioning of our organization and we anticipate your participation. Thanks for taking the time to get involved with your organization!

NEED A LIFT?

This pollinating season, volunteers for the Chapter acquired help from several electric companies around the state. We here at *The Chestnut Tree* would be remiss to not recognize their efforts in helping to make our hybridization efforts possible.



In Tioga County, Bill Montague and Richard Westlake received help from **Tri-County Electric**, a non-profit electric company. <http://www.tri-countyrec.com/>

In Beaver County, Joe Duganich and Dan Cain pollinated a large tree with the help of **Duquesne**
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Restoration of American Chestnut to Forest lands

From May 4-6, 2004, almost 100 people gathered at the North Carolina Arboretum in Asheville, NC for a conference detailing the latest in research on topics such as chestnut blight, chestnut ecology, and chestnut breeding and molecular techniques.

Scientists, staff, and members of The American Chestnut Foundation (TACF) joined several employees of the National Park Service (NPS) to discuss the potential for test and restoration plans on NPS lands throughout the original range of the American chestnut.

The conference was organized by Drs. Kim Steiner and John Carlson at Penn State University and sponsored by the Chesapeake Watershed Cooperative Ecosystems Study Unit (CESU) and the Southern Appalachian Mountains CESU.

At the conclusion of the meeting, manuscripts from presenters were gathered and a summary of issues and recommendations for the NPS was developed.

Although the site is under construction, information about and many of the manuscripts developed from the conference are now available on-line at: <http://chestnut.cas.psu.edu/nps.htm>

****But remember to stop by again for updates****

Pennsbury High School Plants CMS Orchard—By Tom Pugel

Science teacher, Cindy DeMaria of Pennsbury High School in Fairless Hills, contacted Dave Armstrong early this year to get her Environmental science class involved with the American Chestnut Foundation's backcross breeding program. The result was a CMS (cytoplasmic male sterility) orchard planted in May in a greenhouse setting that will be planted out next year. Three classes of about 75 juniors and seniors took part in the planting. Their interest and enthusiasm was typical of any of our plantings but the energy level was definitely a step up. Some 90 seeds were potted. CMS occurs only when the American chestnut female flower is pollinated with Chinese pollen. We are using this phenomenon to affect backcrossing via open pollination rather than hand pollination with ladders, bucket trucks and bagging. The CMS orchard of about 80 trees, 40 American and 40 male sterile F1s is planted in an isolated location so that when they begin to flower the F1s will be pollinated by the Americans in the orchard yielding first backcross seeds. While we were planting the seeds I couldn't help think of where these students would be in the 5 to 6 years when the trees start producing chestnuts. Some will be well into the work force,

others finishing college, some will be parents, all will have a first hand knowledge of the chestnut restoration project. The present day sixth graders will be harvesting the seeds and continuing the project.

Mrs. DeMaria's intense interest in the environment initiated the development of the course "Environmental Science: Issues and Answers". She and Mr. Mike Andrews (retired) are the original designers of the course. Cindy is now completing her ninth year teaching it. Ms. Obert - Thorn and Ms.

Moore also teach the Environmental Science curriculum and helped keep the students focused on the project...no easy task with prom night approaching!!

Tom Pugel, wearing TACF sweatshirt, and Cindy De-Maria, wearing black t-shirt, pose with students from Pennsbury high School



LEW SANTINI

1924-2005

remembrance by Blair Carbaugh

“Blair, there is a meeting of fellow druids down by Holidaysburg to talk about an American chestnut breeding program. We should go.” Lew went on to express his admiration for such a quest. A Mr. Barnhart had a unique meeting site which Lew had visited. His curiosity was piqued by a man who had a small golf course, buildings full of chestnut antiques and a large statue of chicken! We attended, meeting Barney, Bob and Ann Leffel, and other enthusiastic druids. We were hooked.

I had the pleasure of attending many chestnut meetings with Lew. He was a life member of TACF. A man of immense curiosity, Lew Santini drew joy from investigation of new ideas and endeavors. He read all the TACF printed material and in his quiet inimitable way understood more than he professed. He enjoyed forays to pollinate chestnut trees. Often he recounted the thrill of riding 50 feet high in a bucket-lift with Lee Saufley to pollinate the top of a tree. Committed to the end, he left hospice care with the aid of a good friend to help in the planting of the BC3F2 orchard at our farm.

Lew wanted his grandchildren, Meaghan and Aidan, to appreciate the American chestnut so he had them help plant nuts and tend young trees in his woodlot and made the children members of TACF.

Lew stayed current in radiology, working as a physician at Geisinger Medical Center to the end of his life. We will miss this quiet, insightful man whose curiosity and enthusiasm inspired us all.



Coleman K. Sober grew thousands of chestnut trees on his farm in Irish Valley, near Shamokin, PA. Primarily, he grew an American-European hybrid known as the Paragon chestnut. He sold grafted trees, seedlings, and nuts. In the late 1800s and early 1900s, Sober's was one of the most productive commercial chestnut orchards in the world.

C. K. SOBER CHESTNUT FARM

By 1913, shortly after the chestnut blight hit Irish Valley, Sober was out of business.



Lew Santini donated information he

researched on the Sober Farm to our Penn State Office. Also, his wife painted a beautiful portrait of the historical barn that still stands on the property. That painting was then placed on notecards and sold by the chapter. An copy of her painting may be seen in the image above.

FIELD TRIP

The C.K. Sober Chestnut Farm is located in Irish Valley, just north of Shamokin, PA and just south of Paxinos, PA. From Shamokin, follow Route 61 North for about 4.5 miles to Irish Valley Road. If you see Masser's Market on your left on Route 61, you've gone 300 yards too far.

Make a left onto Irish Valley Road and follow for 4.3 miles to the Chestnut Farm Barn — it will be on your right.

Across the road and fields, WSW from the barn, you will see several Chinese and what are possibly hybrid chestnut trees along what used to be a racetrack.

In the April 1998 issue of the *Chestnut Tree*. TACF member Bill Lord wrote an article detailing his visit to the Farm, along with some history. You may access a copy of that article by visiting the following website (all in one line in your browser):

http://chestnut.cas.psu.edu/newsletters/PA-TACF_News.htm

Lew Santini (left) and Blair Carbaugh (right) stand in Blair's American chestnut orchard in the spring of 2003.

Chapter and TACF help Penn State get new tractor

By Tim
Phelps

PA-TACF and TACF each made contributions of \$5,000 to Penn State University School of Forest Resources for the School's work in the restoration effort. Currently, the University is home to three breeding orchards, two experimental plantations, and several silvicultural test plantings all totaling about 23 acres of planted chestnut trees. The School's primary need was to purchase a new tractor to help maintain all of these trees, as well as with other forest genetics projects. A new 2005 Kubota-L5030 compact tractor replaces the former 1990 Ford-1520. The Ford, which had collected 1,400 hours, was still in good condition, but could not perform in a safe and efficient manner required for the School's current needs. The Kubota's 4-cylinder diesel engine nets 50 horsepower and easily manages accompanying front-end loader complete with bucket and pallet forks, a new 72-inch wide Bush Hog rotary cutter, and attachments already in the tool shed including a 50-gallon boom sprayer, 2-ton utility dump cart, and box tiller. Penn State was able to procure the machine under state contract, which carried a welcome 25% discount making the retail price of over \$35,000.00 much more affordable. In addition, the Ford tractor and old 60-inch brush cutter were traded-in, which further reduced the price. PA-TACF and TACF were the only external sources of funding, which, combined, covered nearly 40% of the total cost. Penn State paid for the remainder. Thanks again to PA-TACF, TACF, Dr. Henry Gerhold, Dr. Kim Steiner, Dr. John Carlson, and Lee Stover for making this purchase a reality. After a couple of months of intensive use, the purchase has proven well worth every cent. Greg Warochier, research aide and primary user this summer, says ecstatically of the new Kubota, "It's awesome...a very nice piece of equipment".



From the Editor: There has been some debate in chestnut circles as to whether the species' experience significant help in pollination via insect means. There is a good amount of literature on the topic, but none that conclusively state the amount of insect pollination that occurs. This summer, PA-TACF members Tim Eck and Bill Lord commissioned student Emma Eck to use advanced photographic techniques in order to start research toward settling the debate on American chestnuts and TACF hybrids.

INSECTS AND CHESTNUT POLLINATION

By Emma Eck



This past chestnut flowering season, I captured approximately 15,000 images and numerous insect specimens in an attempt to learn more about the interactions between the American chestnut and possible insect pollinators. Using a camera and a lap-top computer, I was able to capture images in the field at the rate of one per second. While it appears that a number of bee, beetle, ant, and butterfly species feed on the male catkins, one beetle species in particular, the Pennsylvania leatherwing (*see image above*), was found in high abundance swarming over the catkins and occasionally visiting the female flowers, making them likely pollinators. The next step in my study is to examine the average pollen loads that these insects carry from the male to the female flowers. While my study doesn't attempt to quantify the amount of insect pollination occurring, I believe that my results demonstrate that insects do play a role in the pollination of the American Chestnut.

Susan Ellis, www.insectimages.org

Novovision, Inc. Wally Soufi is

Chairman and CEO of Novovision, Inc., a company primarily dedicated to providing software solutions for image and data management and analysis systems to quality assurance and healthcare laboratories. Since 1995, Novovision has worked with Alcoa to enhance Alcoa's automated clad image measurement system. In 2000, Novovision introduced NovoPath, its anatomic pathology software system. Tim Eck, who works for Alcoa, contacted Wally, seeking advice regarding time-lapse digital photography with digital cameras for Emma's project above. Wally offered to loan Tim and Emma a digital camera for that purpose and offered to assist them in setting up their laptop for time-lapse digital photography. We at the Chapter thank both Wally and Novovision, Inc. for the dedication and interest in our project.

VOLUNTEER SPOTLIGHT

Amanda Loy is the daughter of Keith and Lori Loy of Pine Grove, Pennsylvania. At the age of sixteen and only a junior, she has already accomplished a lot in her lifetime. At an early age Amanda became a star student with all A's on her report cards and many extra-curricular activities on her agenda. Currently she is third in her class and her class's president--not bad for a girl who grew up on a farm her entire life. Amanda has always been involved in anything that interested her. She played volleyball and basketball for quite a few years and has been involved in student government as soon as she had the chance. In fifth grade she joined the Envirothon team which she became team captain of in the following years when she lead her team to third and eventually first place finishes.

In the past two years she has helped a group of her peers who were interested in FFA fight for a re-chartered chapter at her school. Her teacher, Mr. Van Wagner, pushed the state's authority to bring FFA back to Pine Grove Area. In the summer of 2005, Amanda was along with fellow FFA officers from the FFA club to receive official recognition of the re-charter at FFA week at Penn State University. ***This is how I got involved in the chestnut program. Saufley came to the school and used our small FFA class to go to the site. I stayed with it. ****

However, Amanda isn't only interested in the outdoors. She is also involved with her schools yearbook and newspaper staffs. She also thinks she may be one of the only people who are both officers of the FFA organization and the FBLA organization. She was treasurer of FFA and will be VP of FBLA this year. One of her proudest accomplishments is her community service team which she calls Miss Vickie's Family. She started it with a group of girls four years ago when they formed a Relay for Life Team and she became team captain. Since then the all girls group have done many more things to help others and are always looking for new ways to help.

Amanda isn't only a hard worker in the classroom and on the court, she knows how to do the dirty work too. She credits that to the farm! She's looking into all sorts of colleges right now with plans of majoring in both pre-med and finance. Hopefully she'll get to fulfill her dreams of becoming a pediatrician and a business owner, as well as

*Do you know an extraordinary volunteer in the Chapter? Write to Sara at The Chestnut Tree to nominate someone you know for the Volunteer Spotlight.
Phone: 814-865-7228. E-mail: sff3@psu.edu*

GET INVOLVED!

There are all kinds of ways you can get involved in helping the Chapter. All you need is some time and enthusiasm. Don't know what you can do to help our cause? Contact Dave Armstrong, PA-TACF's Operations Coordinator and Vice-President at the address on the front of this newsletter to find out how your efforts can aid in the restoration of the American chestnut tree.



Lee Saufley (first standing on the left) oversees the planting of a new Graves BC3 orchard on his Schuylkill County property this spring. With the help of several students from Van Wagner's Pine Grove High School's Science Class, over 150 chestnut trees were planted with several other native tree species. Amanda Loy is in the pink shirt placing the protective tube over a newly planted chestnut seed.

a farmer on the side. But for now-she plans to have fun with her new pick-up truck, four-wheeler, and her little brother's dirt bike (just as long as she doesn't hurt herself!)

***Amanda was nominated by Lee Saufley as an extraordinary volunteer. We appreciate her efforts and wish her the best in her studies and future efforts toward American chestnut restoration.*

**Pennsylvania Chapter
The American Chestnut Foundation**

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The Chestnut Tree Newsletter

(Continued from page 2)

as possible. We will use the seed for several purposes: 1) to distribute to new TACF growers around the state, teaching them about the culture of chestnuts; 2) establish new American germplasm orchards which house diverse populations of native American chestnut trees; 3) TACF Seedling sales; 4) as local American stock for use in CMS orchards and 5) as “check” trees in our hybrid orchards.

Diseased and unfertilized seed will fall first. Then, burs with viable chestnuts will start to open up. Once you see the burs starting to split at the seams, it's time to harvest the burs!

Store the harvested unopened burs in a dark, cool, dry, rodent-free room. Many of unopened burrs will open during the next 10 days. Store the nuts as they are released from the burrs.

After 10 days, remove all nuts from the remaining unopened burs. Place nuts from each tree in separate perforated Ziploc bags with dampened (not dry; not wet) peat as soon as nut is removed from burr. Label each bag of nuts both inside and out with collectors name and telephone number, location of tree, date of harvest, seed count and any other pertinent information. Store in refrigerator. **DO NOT FREEZE.**

Finally, bring your seed to the Fall Meeting.

(Continued from page 4)

Light, who provides electricity to over 1/2 million customers in southwestern PA. <http://www.duquesnelight.com/>



Then, in Pike County, Josh Flad and Robin Wildermuth pollinated several American chestnuts in the area with help from **PPL**. <http://www.pplweb.com/>

Each of these companies has already donated at least one day of their employees' time and use of their bucket trucks toward the pollination of some large PA native American chestnut trees. Without their help, we would be unable to capture the genetic diversity within these chestnut trees. We look forward to seeing them again at harvest time!

**WHAT WOULD YOU LIKE TO SEE in
THE CHESTNUT TREE?**

Do you have an idea for an article? Would you like to write an article? We here at *The Chestnut Tree* would like to have your opinions and ideas for write-ups in the newsletter.

Contact Sara with questions, comments, etc.
Phone: 814-865-7228 E-mail: sff3@psu.edu