

# Chestnut Tree

The Pennsylvania Chapter of  
The American Chestnut Foundation



## Fifteenth Annual TACF Meeting at Longwood Gardens: Volunteers Are Needed



Longwood Gardens

**T**he fifteenth Annual Meeting of The American Chestnut Foundation will open Friday night, October 16 at the West Chester Holiday Inn at 7:00 P.M. with registration and reception.

Saturday will feature workshops, science presentations, and luncheon banquet at Longwood Gardens followed by a tour of the gardens, including the chestnut planting. Saturday night will include a reception and tour of Brandywine River Museum featuring the Wyeth collection of paintings. On Sunday at Longwood Gardens, the business meeting will be followed by guest speaker and member sharing until the noon adjournment. If anyone needs information regarding the Annual Meeting they may contact TACF at (802) 447-0110.

The PA Chapter, in lieu of its annual fall meeting, will hold a brief business meeting for the election of Board members and other items of business. There will also be a table at the registration area to receive nuts collected from native American trees or harvested from controlled pollinations (See article on Chapter Collecting '98 Chestnut Seed on page 10).

It will be our opportunity and privilege to serve as hosts for the weekend meeting. Many volunteers will be needed. Those who plan to attend the annual meeting are encouraged to volunteer. Following the registration and reception at the hotel on Friday night, there will be a

brief Volunteer Organizational Meeting where the weekend will be outlined and assignments and roles of volunteers will be reviewed. All volunteers should attend.

Special needs include:

1. **Hosts** to meet with guests, assist staff with registration and sale of merchandise, assist workshop leaders with setup, serve as ushers to direct people to activity locations and to answer questions, and in general be on hand to assist in the needs of staff and participants.
2. **Bakers** to bring chestnut baked goods (chestnut flour, nuts and recipes provided by TACF) to be served at receptions.
3. **Moderator** - to assure that each member gets a fair and equal amount of time during member sharing.
4. **Guest Speaker Liaison** - to receive speakers and attend to their needs.
5. **Lighting Coordinator** - for slide presentations, etc.
6. **Sound System Coordinator** - experienced with public address systems to assure that all is ready for each days presentations.
7. **Nut Collectors** - to receive, record, and label all nuts brought in for PA-TACF breeding program.

PA-TACF Board member **Phil Gruszka** of Longwood Gardens will serve as coordinator of and liaison with TACF for those who wish to volunteer. Contact him by mail or telephone to express how you can help.

**Phil Gruszka** Phone: 610-388-1000 Extension 541, Longwood Gardens P.O. Box 501 Kennett Square, PA 19348

### New PA Chapter Office!!!

The Chapter has moved into a new office at:

The United Way of York County

800 East King Street

York, PA 17403

Telephone (717) 852-0035

E-Mail: [pachapter@acf.org](mailto:pachapter@acf.org)

### In This Issue...

PA-TACF Board Meeting -----2	Founder, Dr. Burnham ----- 8
Chapter Leadership -----3	Dr Anagnostakis Comments --- 8
Growers & Pollinators -----4	PA Takes Part in Genetic Tests--9
Meadowview Visit -----6	Harvest Seed Collecting -----10
PA Nut Growers Picnic -----6	Cooperative Research-----10
Michaux State Pollinatons -----7	PA Forestry Assoc. Meeting---11

**The Pennsylvania Chapter of The American Chestnut Foundation**  
 800 East King St. York, PA 17403  
 (717) 852-0035 E-Mail: [pachapter@acf.org](mailto:pachapter@acf.org)

#### Officers

**President:** Al Eelman, Chester County  
 610-358-1077, FAX: 610-358-9308  
**Vice President:** Dan Heacock, Perry Co.  
 717-957-2733, FAX: 717-232-1885  
**Secretary:** Bob Summersgill, New Jersey  
 908-647-5864  
**Treasurer:** Tracey Coulter, Cumberland County  
 717-486-8935

#### Board Members

**1999 Term**  
**Blair Carbaugh**, Montour County, 717-275-7848  
**Phil Gruska**, Chester County,  
 610-388-1000, Extn: 541  
**Chandis Klinger**, Snyder County, 717-837-0457  
**1998 Term**  
**William Peifer**, Ohio, 219-478-6413  
**Rich Polini**, Berks County, 215-675-1898  
**Tom Pugel**, Bucks County, 610-346-6198

#### Committee Coordinators

**History:** Bill Lord, Allegheny County,  
 412-793-0255  
**PA Farm Show:** Dan Heacock, Perry Co.  
 717-957-2733, WORK: 717-232-5300,  
 FAX: 717-232-1885  
**Membership:** Ron Stanley, Bedford Co.  
 814-784-3652  
**Education:** Mary Stanley, Bedford Co.  
 814-784-3652  
**Tree Location and Identification:** Blair  
 Carbaugh, Montour County, 717-275-7848  
**Grants:** Larry Pachtel, Allegheny Co.  
 412-824-5019  
**Tree Breeding Program:** Bob Leffel, York Co.  
 717-927-9557, FAX: 717-927-8410  
**Communications:** Ann Leffel, York Co.  
 717-927-9557, FAX: 717-927-8410  
**Fund Raising Auction:** Chandis Klinger, Snyder  
 Co. 717-837-0457  
**Newsletter Editor:** Warren Lauder, Chester Co.  
 610-388-6944  
**Newsletter Production:** Dave Armstrong, York  
 Co. 717-632-8669, FAX: 632-0479  
**Newsletter Printing:** News Printing Co.  
**Barney and Charlotte Barnhart**  
**Newsletter Mailing:** Ron Stanley  
**Chapter Office Manager:** Dave Armstrong

*The Chestnut Tree* is published three times a year by  
 The Pennsylvania Chapter of the American Chestnut  
 Foundation.

The PA bylaws provide for an Executive Board  
 composed of four officers and six board members.  
 The board meets several times a year. The  
 Committee Coordinators and the Area Coordinators  
 participate in meetings. If you, as a member wish to  
 attend, please advise and you will notified of the  
 next meeting.

TACF was founded in 1983 as a 501(c)(3) non-  
 profit organization. Its sole goal is to restore the  
 American chestnut through co-operative research  
 and a scientific breeding program.

## New Chapter Headquarters in York, PA

**A**fter a lot of searching, we found a great location at the United Way Building in York. The rent is low and all utilities are included plus a large conference room for training and meetings. Dave Armstrong has volunteered to manage the office but we need some help. We request anyone in the area who can provide some volunteer time to help operate the office, please call Dave at (717) 852-0035 or e-mail to [pachapter@acf.org](mailto:pachapter@acf.org). This is a great step forward in providing increased emphasis for our membership, education and chestnut breeding programs.

## PA-TACF Executive Board Meeting

by **Bob Summersgill**, Secretary

**T**he PA Chapter Executive Board met at the Leffel Farm June 14, 1998. Present were officers Al Eelman, Dan Heacock, Bob Summersgill, and Tracey Coulter; Board Members Tom Pugel, Bill Peifer, and Phil Gruska; and Committee Coordinators Dave Armstrong, Ann Leffel, and Bob Leffel. Plans for this seasons pollinations were made.

Plans were made to again exhibit at the PA Farm Show at a cost of \$307.

The Board approved funds to be spent to relocate the PA-TACF Office.

The need for area coordinators was discussed, the nominating committee appointed, and plans were made for PA-TACF participation in the TACF Annual Meeting in October.

Dave Armstrong represented the chapter at the TACF Board Meeting at Meadowview, VA on June 5 and 6. He gave a report on that meeting which is summarized as follows:

1. The TACF Board dedicated the Glen Price Farm on Saturday June 5<sup>th</sup> in a ceremony at that 90 acre tract of land.
2. The Science cabinet debated the issue of modifying the new germplasm cooperators agreement and it was decided to honor old agreements and use the new agreement for new cooperators. We will be able to receive hybrid pollen this year from Meadowview as needed.
3. The Science cabinet also resolved to establish a scientific planning group led by Dr. Hill Craddock, Dr. Fred Hebard and Dr. Rob Doudrick. This group will plan the research and provide direction for the breeding program in the future. They plan to present the results of the planning at the Fall meeting at Longwood Gardens.
4. The Board discussed some future locations for backcross nurseries and concluded that any future nursery site should be based on the research plan and not on random sites which focus only on the generation of donor funds.
5. Regional diversity of the American chestnut is the latest focus. A genetic study by the USDA Forestry Service is underway (see article "PA Chapter Participates in USDA Test on page 9). Funding of regional breeding programs modeled on the PA Chapter is being proposed.
6. There is a concern by TACF that the infestation of the gall wasp may pose a threat to the American chestnut. The board decided to study its current movement and destructive effects.

The meeting was adjourned for lunch, distribution of pollinating supplies and tour of the B3 nursery.

## Chapter Leadership - Volunteers Provide Leadership By Phil Gruska

### Upcoming Election

**P**A-TACF elections will be held at the TACF Annual Meeting, October 17 & 18, 1998. The PA-TACF Executive Board which includes four officers and six board members is responsible for the administration and support of the organization. There are two chapter meetings and two or three Executive Board meetings per year. Board members serve two-year terms, elected on alternate years for an unlimited number of terms. Current Board members up for reelection are William Peifer, Richard Pollini and Thomas Pugel. They have each completed one two-year term. Nominations for board members will be accepted by the Nominating Committee: Phil Gruszka, 610-388-1000, ext 541; Dave Armstrong, 717- 852-0035; and Bob Summersgill, 908-647-5864. Nominations from the floor will be accepted, providing the nominee agrees to serve.

### Regional Leadership

**T**he PA-TACF Executive Board agrees that an effective way to organize a state as large as Pennsylvania is to divide it into regions and have a team of volunteers functioning in each region. The Board proposes dividing the state into approximately eight breeding regions to provide for diversity and local adaptation of trees in the breeding program. There are currently 14 county coordinators. (See list of coordinators below). There are many members pursuing a great variety of activities in the chapter such as speaking, nut collecting, pollinating, etc. Active members coming together will result in strong and effective teams within an area. Regional teams with regional and county coordinators could lead in the following ways:

1. Provide for educational programs including speakers, workshops, hikes, or field days.
2. Coordinate regional breeding program: tree location, nut collecting, pollinating and planting and maintenance of breeding nurseries.
3. Contact regional membership either by phone or mailings to keep members informed of local activities, opportunities to help with regional breeding nurseries (watering, fertilizing, weeding, etc.), and to encourage membership and membership renewal.
4. Generate articles on regional news for the newsletter.
5. Coordinate with the chapter on political, governmental and institutional contacts (local county and state parks, foresters, schools, arboreta, gardens, allied environmental groups, etc.).
6. Initiate/explore/relay ideas, concepts, or means to promote, facilitate, or expedite the return of the mighty American chestnut tree to our yards, parks and especially our forests.

The chapter provides membership lists, speakers lists, resource people, and educational materials. A general slide presentation and video are available for purchase or loan. Members who are interested in becoming more active, please contact **Ron Stanley, membership coordinator, Ph: 814-784-3652 e-mail: bberry@bedford.net.**

#### Your County Area Coordinators for PA are:

Rod Clapper & Jack Laws (814) 842-3307 Bedford  
 Rosina Coltellaro (215) 625-2482 Phila. Montgomery  
 Tracey Coulter (717) 486-8935 Cumberland  
 Jim Koenig (814) 539-8632 Cambria  
 Al Eelman (610) 358-1077 Delaware  
 Ann & Bob Leffel (717) 927-9557 York  
 John Maruhnich (717) 378-2584 Wyoming, Lackawana, Susquehanna, Pike, Wayne

Dan Heacock (717)957-2733 Dauphin, Perry  
 Eugene Dougherty (717) 467-2303 Schuylkill, Luzerne, Carbon, Monroe  
 Chandis Klinger (717) 837-0457 Snyder, Union  
 Bill Lord (412) 793-0255 Allegheny  
 Eugene Witmeyer (717) 665-4103 Lancaster, Lebanon  
 Doris Goldman (717) 762-0755 Franklin, Adams, Fulton



**C**hapter President **Al Eelman** considers a visit to his backyard American chestnut tree a formal occasion, and he dresses appropriately. The tree photographed is one grown from seed collected at the 1995 TACF Annual Meeting in West Salem, WI. Al has pampered this tree. It shot up with 43 inches of new growth early this spring.

Recently Al had surgery. We hope he takes care of himself as well as he cares for his tree, and that his recovery will be swift.

## Volunteers Advance Breeding Program Growers and Pollinators by Ann Leffel

**R**ecorded several times in Lewis and Clark's Journal is the statement, "We proceeded on."

This described the act of getting up each morning facing unknown horizons. The only certainty was another day of hard work and pushing forth with determination to move a little farther toward the horizon before the sun went down. This aptly describes the volunteers' efforts in the PA Chapter program.

### Growers

Chapter growers report in on their plantings with determination and enthusiasm even under daunting circumstances.

### **Clearfield County -**

District Forester **Wayne Wynick** reports that the 280 seed B2 (second backcross) planting at Moshannon State Forest is up and growing. Germination was excellent and few have died.

The weather forecasters threatened possible heavy rains and wind that early morning of April 30 as volunteers drove in from all over the state to the planting site. Member **Jane Ramsey** of Port Matilda wasn't able to come herself but she arranged for six Ag Students and Future Farmers of America from Tyrone High School to assist the ten PA Chapter members, and Bureau of Forestry employees and volunteers in this important planting. They worked through the fine mist and the rain held off until the planting was complete. We never could have finished before the rain without the help of those capable high school kids. The older generation worked side by side with younger generation. We hope that the younger generation will grab onto this project and complete it. It's necessary!!



The planting crew at Moshannon State Forest. Front Row L. to R.: Mary Carbaugh, Kane Eyer, Heather Hoover, Joshua McCleester, Ron Stanley, Jean Saufley, Lee Saufley, Dave Armstrong. Back Row L. to R.: Bill Peifer, Wayne Wynick, Bob Leffel, Nicholas Weaver, Jessica Weaver, Mary Stanley, Cameron Weaver, Blair Carbaugh.

### **Perry County -**

On April 13 and 17, PA chapter members made presentations to students in two biology lab classes. The students were in **Dr. Carol Loeffler's** Plant Systematics Class, an upper level Biology class at Dickinson College in Carlisle. During the lab sessions, presentations were given about the chestnut breeding program. Then followed a field experience as the students examined various backcross generations of chestnut trees and planted replacements for missing trees at the Reineman Wildlife Sanctuary plantings. Dr. Loeffler is interested in having ecology classes survey the chestnut population on the sanctuary.



Dickinson College Biology students helping with Reineman Wildlife Sanctuary first backcross planting. Replacement trees are being planted.

### **Luzerne County -**

**Richard Schwartz** led the White Haven Sportsmen Club to completion of a planting of 100 American chestnut tree seedlings on club property. Seedlings were started in milk cartons by **Eugene Dougherty**, coordinator for a five county region, and transplanted to the site on June 7. All but two (lost to mice) are growing well, some reaching 1 ½ feet by mid-July.

### **Westmoreland County -**

**Bob Summersgill** had volunteers all lined up for an April 19 planting. As help arrived, Bob was still cleaning up after the mess vandals left at his farmhouse after a break-in. Not deterred by this bad luck, he and the group began to plant, and the rain began to fall. Three inches worth!! A miserable cold, wet day! The prepared map of the planting disintegrated and the identifying stickers on the bags of nuts washed off, or the ink ran so it couldn't be read. They had to quit at 75 planted because the last 20 holes were filled with water. Bob said that his wife wondered how he could afford a tractor to plant chestnuts, but couldn't replace her 12-year-old-car! Some days you just can't win, but Bob sure had some steadfast friends on planting day. Loyal helpers were Bob's daughter **Kathleen**, **Jim Koenig**, **Larry Patchel**, **Bill Lord**, **Tom Pugel**, and **Judith Gallagher**. Later he completed the planting.

**York County -**

The 1996 planting of B3 (third backcross) trees is doing well at the Leffel plantation. Most of the trees topped seven feet in two years growth from seed. Several trees actually bloomed this spring. This orchard shows that **Dr. Fred Hebard's** system of growing chestnut trees works well.



Ann Leffel at the PA Chapter chestnut B3 backcross nursery in York County that she and her husband Bob maintain

**T**hese are but a few of the growers reports of their adventures in growing chestnuts. There are successes and failures, highs and lows, but overall the 18 nurseries are a huge success. If you are interested in helping with the maintenance of these nurseries, contact PA headquarters or the coordinator nearest to you.

**Pollinators**

**York/Lycoming County -**

**Gladden Gingerich** collected 12 American chestnuts from Tiadaghton Forest in Lycoming Co. about seven years ago and planted them in his yard in York Co. One survives. It has the blight, but thus far Gladden's mud-packing has been effective. The tree, about 20 feet tall and a good three inches dbh (diameter breast height) bloomed well this spring. Gladden placed 51 bags with an average of about 3 female burs per bag which were later pollinated with pollen from trees selected for resistance at Meadowview. A single tree can advance the breeding program.

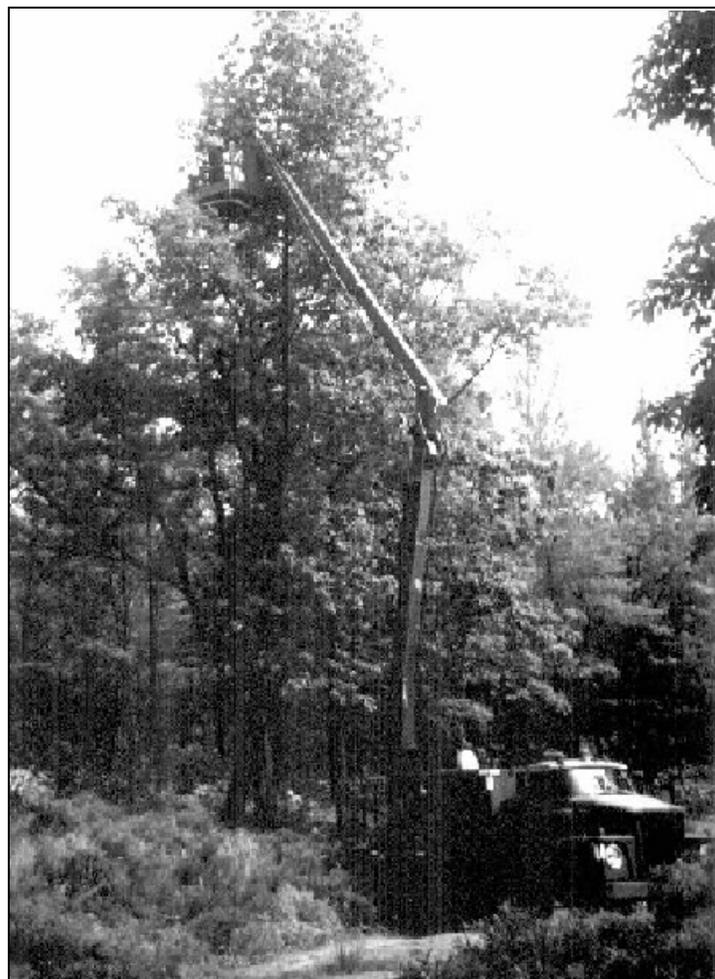
**Bedford County-**

**Jack Laws**, Coordinator from Bedford County made all the necessary arrangements with **Dave Copenhaver**, manager of State Game land #48, for an American chestnut nursery to be planted on the game land. Fifty trees were planted on May 18 with helpers **John Custer** and **Charlie Betsch**. The digging wasn't easy in rocky soil. Jack and team went on to bag and pollinate the flowers on a group

of native trees within the game land later that summer as well.. Jack welcomes help in the ambitious project started. Contact Jack at 814-623-2207.

**Clinton County -**

They flew through the air with the greatest of ease like those daring young men on the flying trapeze.....**Lee Saufley** is an experienced pilot, but he and **Blair Carbaugh**, **Mary Carbaugh**, and **Lew Santini** had an open cockpit experience to remember as they ascended 65 feet in the air on the platform of a cherry picker to pollinate a specimen American chestnut tree this spring. **Forest District #9** provided the bucket truck which was ably operated by **Charlie Cian** a DCNR Bureau of Forestry employee. Encouragement and record keeping was handled from the ground by wives, members, and state foresters **Bob Davie** from Sproul State Forest and **Wayne Wynick** from Moshannon District. The 16-inch d.b.h. (diameter breast height) 74-foot-tall tree was a challenge that Lee and Blair could not resist. They placed 71 bags on June 21<sup>st</sup> and pollinated on July 4.



Lee Saufley and Blair Carbaugh in their 65 foot "flying machine" pollinating the Sproul State Forest American chestnut tree.

(Continued from page 5)

### **Fulton, Somerset, and Westmoreland Counties -**

**Tom Pugel** is a longtime member and extraordinary volunteer. Although he lives in Berks County, he managed to visit three southwestern counties to prepare 299 branch tips with female bloom for pollination by emasculating the male bloom and protecting the female burs thereon from stray pollen by covering them with waxed bags until pollinating time. Tom has been pollinating for several years and is always on the lookout for new trees to include in the breeding program. The same trees cannot be used repeatedly. Diversity is the name of the game. Tom also pursues reports of tree locations in eastern PA. One such tip included a visit to a nudist camp. You never know where chestnut adventures lead you.

### **Lebanon County -**

After three seasons of ducking bombs and machine gun strafing at the Indiantown Gap National Guard Training Area (no live ammunition), the large area of young tree sprouts finally produced not only male catkins but, for the first time, female bloom as well. **Bob Leffel** led a pollinating workshop there this spring for members. About 100 bags were placed on a multitude of small trees in the jungle-like entanglement of regrowth on the regenerating burnt-over area. Two weeks later they were pollinated. Can't count your chickens before they hatch, and you can't count your chestnuts til they're harvested, but female burs were more abundant this year and we hope the nut crop will be larger as well.

**T**hese represent just part of the many stalwart and dedicated volunteers working in the state of PA to accomplish our part of The American Chestnut Foundation breeding program. All is done to restore this unique and beneficial component of future healthy and productive forests.

### **Meadowview Volunteers**

**S**everal weeks each year, opportunities abound for members to participate in activities at the research farm. Staff scientists **Fred Hebard** and **Paul Sisco** keep folks busy. Nine volunteers from PA helped out this summer and learned identification, inoculation, mudpacking, bagging, pollinating, and record keeping techniques. They enjoyed tours of the farms and surrounding mountains. PA volunteers included **Dave Armstrong, Bob Summersgill, Eugene Witmeyer, Harry Norford, Mary and Ron Stanley, Bill Lord, Larry Patchel, and Chandis Klinger.**

## **A Visit to Meadowview**

by Larry Patchel - Grants Coordinator

**B**ill Lord and I spent two days of the week of June 22 at Meadowview Research Farms. This was my first visit and I was very impressed with the setup there. We worked hard but were very satisfied with the results. On the first day we pollinated on the farm. The second day we traveled high and deep in the mountain forest where we bagged the females for later pollination. In the upper elevations of the mountains the trees bloom later than in the valley. While some volunteers stayed in dormitory rooms or alumni housing at Intermont College in Bristol, VA, we chose to stay in an inexpensive motel just a few miles from the farm. On the second day a couple of men came down from Maine to help. They drove all night and started right in working about 2:00 PM. They drove sixteen hours straight through. There was also a young man from the New York chapter. He was staying four days. It amazed me how dedicated some of the members are. I guess that is what keeps the chestnut program going.



## **Pennsylvania Nut Growers Association**

**Picnic** by Ann Leffel

**T**he 42<sup>nd</sup> Annual Pennsylvania Nut Growers Association Picnic was held at the farm of Ann & Bob Leffel on Saturday July 11. The meeting began with a presentation promoting the potential for a Persian Walnut Industry in PA by Vito Balise, a processor of walnuts in California. Vito noted that a large percentage of the California crop is sold in Pennsylvania and that the quality of PA nuts is exceptionally good.

A wagon and walking tour included the 500 chestnut trees in the PA-TACF third backcross orchard and the small woodlot in a forest stewardship management plan. Questions and answer session followed and then a great potluck picnic on a most beautiful summer day. Next was a grafting demonstration by Tucker Hill and a fund raising auction by Jay Book. After the meeting, members toured either Allegro Vineyard and Winery or the woodland and rock gardens of Nicholas Klise and Morris West. Seventy persons gathered for the day's activities.

## Chapter Members Pollinate Michaux State Forest by Dave Armstrong

**J**uly 2<sup>nd</sup> was a beautiful, cool, sunny day when we met at Michaux State Forest Ranger Station in Franklin County. Our team of seven enthusiastic volunteers from Adams and Franklin Counties, PA was ready to assault the ridges to bag and/or pollinate the American chestnuts. Before hitting the woods, we were concerned that the early spring might have accelerated the female flower growth too much. We had three contingency plans:

Plan No.1: If the female burs were in a pre-pollination phase, we would bag them and return in 10-12 days to pollinate them.

Plan No.2: If the burs were ready to pollinate, and the male flowers were fully out, we would pollinate and bag in hope of beating the natural pollination process. We had pollen as needed.

Plan No.3: If the burs were obviously beyond pollinating, we would mark the trees and note their location for harvesting in the Autumn.

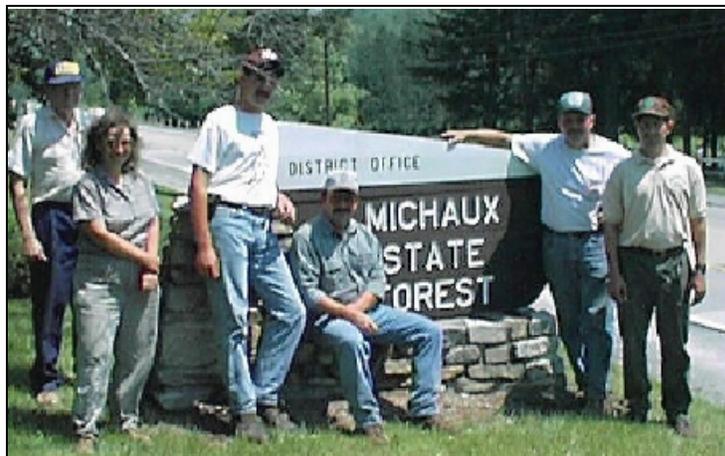
Thanks to the great reconnaissance and guidance of **Phil Vardell**, Forester at Michaux and a member of the PA Chapter TACF, our team was able to go directly to the American chestnut tree sites and begin work. We were initially disappointed to find that at Corals Ridge, the burs were beyond pollination time, so we implemented plan three and marked three trees for harvest.

At another site ten miles further away at Curve Ridge, we found the burs at their peak for pollination. Unfortunately the male catkins were well out and may have already pollinated the females. However, the team did find and pollinate 12 trees with 109 bags including 11 control bags. The control bags were placed over non pollinated burs to see if mother nature got there first.

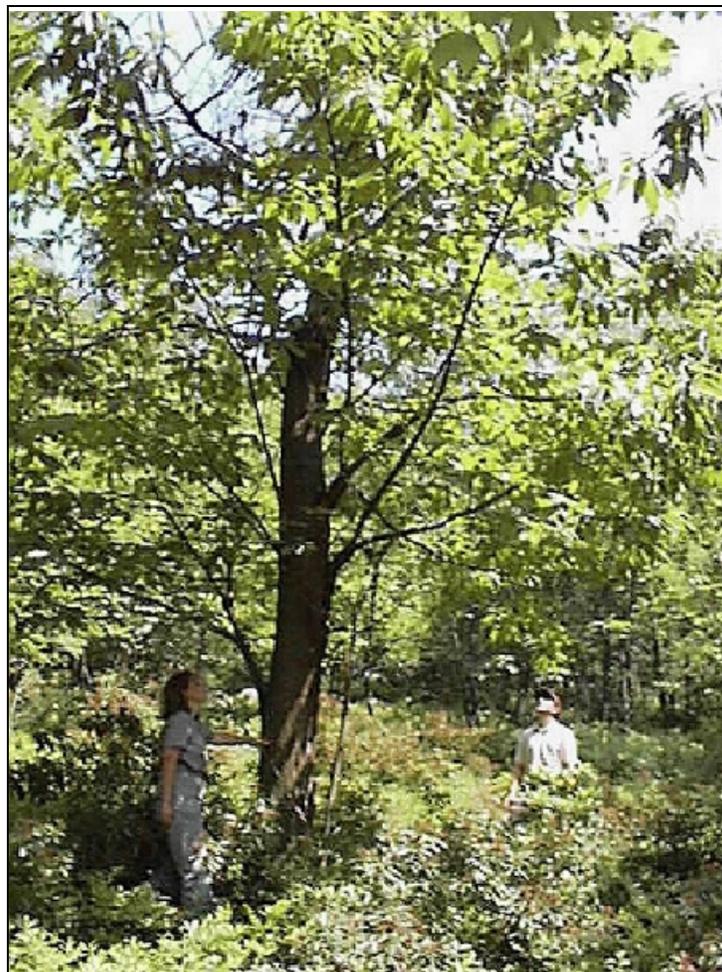
While at Michaux Forest we visited two of the largest surviving American chestnuts that I have ever seen. The Zimmerman Chestnut Tree is 50 feet tall with a diameter at breast height (dbh) of 10 ½ inches. It does not have a single canker or any evidence of blight.

The other tree was the Kusco Chestnut Tree which is about 50 feet tall and has a dbh of 13 inches. The top of the tree has been killed by blight but the lower 1/3 is green and producing flowers. Both of these trees were too tall to pollinate, but we will include them in our harvest this Fall.

Obviously we expect a great harvest, and the local PA Chapter members are thinking about a harvest meeting and picnic at Michaux. We will invite suggestions and participation of members from Adams, Franklin, York and Fulton Counties.



The local pollinating team at Michaux State Forest. From L to R: Tom Watkins, Chambersburg; Dr Doris Goldman, Waynesboro; Bob Fitez and Dave Luckenbill, Mountain Valley Farms; Phil Vardell, Forester at Michaux State; Mike Waldron, Penn Forestry Co. Photo by Dave Armstrong, Hanover



PA Chapter members admire the Kusco American chestnut tree at Michaux State Forest. It is 13 inches dbh and 50 feet high.

## TACF FOUNDER: Charles B. Burnham by Bill Lord

**T**he American Chestnut Foundation was established In 1983 by Charles Burnham, and Phil Rutter, our first president, with help of attorney Don Willeke. It was an opportunity for lovers of the American chestnut to get involved. Burnham recognized the importance of establishing separate lines of American chestnuts adapted to diverse environments within their natural range.

TACF Science Director Al Ellingboe studied under Burnham, “a very inspiring mentor who expected students to develop a burning, driving interest in their research.” Dr Bob Leffel gives him an accolade, “Never in the annals of plant breeding has anyone critiqued a major, long term plant improvement program that failed - and then corrected the approach as has Dr. Burnham in blight resistant American chestnuts.” This, among many reasons, is why Bob and Ann Leffel and all of us have joined TACF.

Charles Russell Burnham, 1904-1995, retired from the University of Minnesota in 1972 as a full professor in the Department of Agronomy and Plant Genetics. His students and peers had words for him; “dedicated, hard working, intelligent, inquisitive, perceptive, warm, inspiring, and knowledgeable.”

Charles was born in rural southern Wisconsin between Madison and Milwaukee. He graduated from highschool at age 16, an event that foretold his future academic achievements. He earned his B.A., M.S., and Ph.D. majoring in genetics and plant pathology, all from the University of Wisconsin. He then became a National Research Fellow with tours at Cornell, Harvard, and the California Institute of Technology. In 1932-33 he taught and did research at the University of Missouri. That year he married Lucille, his sweetheart and thereafter life long companion. In 1933-34 they were in residence at Yale. During these years Charles studied the cytogenetics of food plants, primarily corn, wheat, and sorghum. (Cytogenetics is the science of heredity and its interacting functions with the living cell).

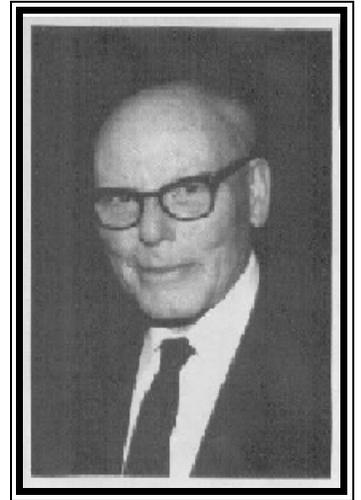
Dr. Burnham began his full-time teaching career in genetics and plant breeding at West Virginia University in 1934. While there he witnessed the demise of the American chestnut: dead giants standing grey and leafless after they had been girdled and destroyed by the chestnut blight. Undoubtedly he thought about the American chestnut from time to time but did not pursue the subject until after 1979. He knew the U.S. Forest Service was doing research. He did not know the details but assumed the “problem” would be solved.

During Dr Burnham’s retirement he found articles describing the chestnut’s plight and was surprised that no blight resistant chestnuts had been produced by the USDA breeding program. He soon recommended the backcross breeding program that we know and apply today.

Beginning in 1987 hybrid pollen was distributed to people who had access to fruiting American chestnut survivors in 15 locations from New England to Tennessee. In 1989, Dr Burnham and fellow TACF members welcomed the generosity of the Wagner family who provided 20 acres of farmland in Meadowview, Va for plantings. That was the year Dr. Fred Hebard became farm superintendent.

The 1995 summer edition of the *Bark* told us that our founder had died on April 19. The same edition reported the purchase and donation to TACF of the 90-acre Glenn C. Price Research Farm by Mrs. Price. Today there are over 11,000 chestnut seedlings and young trees in Meadowview. Young fourth generation trees will now be producing seed. The Burnham proposal will be fulfilled.

*Dr. Bill Lord is a TACF Board member and has been recently appointed as the Foundation’s Archivist. He is a retired veterinarian who resides in Pittsburgh with his wife Faye.*



## WHAT ARE WE DOING HERE ?

By Dr Sandra Anagnostakis

of The Connecticut Agriculture Experiment Station

**A**s the time for pollination comes around again, it is worth thinking about the main goal of TACF. Charles Burnham was convinced that there were a few genes responsible for the resistance of Asian chestnuts to chestnut blight disease. He hoped to get volunteers to make crosses of resistant species and hybrids with native trees throughout the range of American chestnut to breed replacements for blight-susceptible trees so sorely missed in our forests.

(Continued on the next page)

**WHAT ARE WE DOING HERE?** (Continued from page 8)

We have managed to mount a huge effort in tree breeding, with Fred Hebard leading the way, but it is time for us to carry the effort throughout the east coast forests. Volunteers can locate populations of flowering American trees (have their identity checked by people who know how), bag female flowers, and put resistant-hybrid pollen into those flowers. If the female flowers are too high to reach, a pole pruner can be used to cut flowering branches, and pollen producing flowers can be taken to people with hybrids growing in each state for use as male parents. We CAN do this! We can increase the diversity of our hybrid populations, and make them fit for planting out in the forests of each region.

I have an experiment planted at the State Nursery in NE Connecticut which will allow me to check the theory that roots produced by seedling chestnuts in the first two summers are predictors of their ability to survive in forest plantings. The roots will be measured with the help of Dr. Scott Schlarbaum from the University of Tennessee, who will apply the principals of oak seedling assessment developed by Paul Kormanic of that University. If certain female parents produce more "fit" offspring, then those should be used to produce future generation of seed.

I plan to continue to improve our system of biological control of chestnut blight using the hypovirulence virus. I'll use this to keep native trees alive throughout Connecticut, so that I can plant our resistant hybrids near them (when we figure out how best to do this), and give them a chance to cross and produce seed selected for adaptation to each small ecosystem in our state. The combination of biocontrol and resistance in the tree population should allow a timber population of chestnut to take its place once again.

*Dr. Sandra Anagnostakis is a mycologist at the Connecticut Agricultural Experiment Station in New Haven and has been studying the chestnut blight since 1968, making her one of the world's foremost experts.*

### **PA Chapter Participates in USDA Forestry Regional Adaptation Test**

**O**ne of the most important tests that can be done regarding regional differences throughout the natural range of the American chestnut tree is going on at the USDA Genetic Test Station in Saucier, Mississippi. They are collecting leaf samples to see what the genetic differences are in regional adaptation of the chestnut from Canada to Georgia. This will help to determine the necessary diversity of local breeding programs in each state and how many local lines of American trees we will need for the backcross breeding program.

Dr. Tom Kubisiak of the USDA Forest Service, Southern Research Station, Saucier, Mississippi has asked that each state provide two samples of American chestnut leaves from two different locations in each state. He needs 60 leaf samples from trees that are 100 meters apart - a tough task. Dave Armstrong sent Tom samples from Codorus State Park in York County, and Bob Summersgill sent the 60 samples from Westmoreland County. Bob and Dave were at the Research Farm in Meadowview, Va, and participated in the leaf collecting in Mt. Rodgers National Recreation Area.

Dave Armstrong also sent samples to Dr. Kubisiak from the Savage River State Forest in Garrett County, Maryland. It was a really long drive from Hanover!

We look forward to the results of this testing to determine the diversity of adaptation of the American

chestnut its range and the impact on the breeding program.

With regard to regional adaptation activity, There is a grant in the works to TACF for funds to develop regional programs and assist states with their local chestnut breeding activities. The model for this program is the Pennsylvania Chapter. Our congratulations to the many volunteers who have helped developed this great chapter over the years.



#### **Squash and Chestnut Soup**

- ½ pound raw chestnuts
- 2-2 ½ pounds of butternut or bonnet squash
- 1 onion
- 1 stalk celery
- 4 cups chicken broth
- 1 cup white wine
- ¼ teaspoon of ginger or nutmeg (optional)
- 1 ½ cups milk or light cream (optional)

Microwave or boil and peel chestnuts. Peel and seed squash and cut into 1 inch chunks. Dice onion and celery. Place vegetables and nuts in large saucepan with chicken broth. Bring to boil, cover, and simmer until squash and chestnuts are tender. Puree 2 or 3 cups at a time in a food processor. Add wine and blend. Add milk and spices if desired. Reheat and serve. Makes about 8 cups of a very satisfying soup. (Wine can be substituted by another cup of chicken broth).

## Seed Collecting Bring in the '98 Crop by Bob Leffel

**T**he chestnut harvest season is coming soon! Now's the time to locate nut producing native chestnut trees if you haven't already done so. It's also a great time of the year to walk in the woods. We'd like to have nuts from every PA county represented in our American chestnut gene pool. It is desirable to collect from different trees every year to assure diversity of parents in the breeding program. American seed is also required for "check entries" in the backcross nurseries. TACF-Meadowview needs seed from each state. They are used in the breeding program, to fulfill requests for seed kits, and for the TACF nursery which offers American seedlings for sale.

Scout your territory. American chestnuts are found in oak/hickory hardwood forests, usually in close association with chestnut oak trees. Nut producing trees are found only in areas open to sunlight such as road or trail openings. Confirm identification as native American chestnut pollinated by adjacent American chestnuts. Collect the burrs just prior to their opening. A minimum of 10 burrs per tree is desirable. Non-fertilized burrs generally fall first. If in doubt, harvest a burr, open, and if seed coat is brown, harvest the tree. Store the harvested unopened burrs 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 burrs. Place nuts from each tree in separate perforated veggie 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.** Bring to TACF Annual Meeting. A table will be set up at registration on Friday night and Saturday morning to receive them. Or mail the stored and labeled nuts to Bob Leffel, RD2 Box 405, Laurel Rd., Brogue, PA 17309 by overnight or priority mail.

To have your tree verified as American, cut a leafy twig about 8 inches in length that is growing in full sunlight. Slip the sample (without moistened towels or wax paper) into a manila envelop, label it with pertinent information as indicated above and mail it to Blair Carbaugh, 161 Moser Road, Danville, PA 17821.

### Cooperative Research in Forest Tree Improvement Programs by Bob Leffel, Research Agronomist, USDA (Retired)

**F**orest tree improvement programs combine all tree breeding and silvicultural activities to produce the most valuable forest products as quickly and inexpensively as possible. A computer search on 5 March 1998 at the National Agricultural Library for references on "Forest Tree Genetics" and "Forest Tree Breeding/Improvement" produced 150 references. The most complete text books (in English) on the subjects were:

Wright, Jonathan W. 1976. Introduction to Forest Genetics.

Academic Press, Inc. 463 pg; and

Zobel, Bruce and John Talbert. 1984.

Applied Forest Tree Improvement. John Wiley and Sons, Inc. 505 pg.

Both books present the application of Mendelian, quantitative, and population genetics; breeding methodologies and approaches; and geographic variation in forest trees, to forest tree improvement programs. Geographic variation is treated extensively, on a world-wide basis, in the recent book:

E. Kristian Morgenstern. 1996. Geographic Variation in Forest Trees: Genetic basis and application of knowledge in silviculture. UBC Press. 209 pg.

Sections of these three books on such topics as effects of selection on gene frequencies, estimates of heritability and genetic gain, variance analyses, etc. are not easily understood without some training in genetics and experimental statistics. **BUT** — anyone should be able to understand Zobel and Talbert's last chapter, entitled *Developing Tree Improvement Programs*. Tree improvement "requires a large expenditure of effort and money, trained people, and suitable facilities. ....is an activity that is best suited for large corporations and governments to undertake, .....The way to obtain more general application of tree improvement is to establish cooperatives. .... A few trained professionals with proper technical support can direct a very large program. Each member cannot afford its own specialists, but it can share them by means of a cooperative. The success and efficiency of the cooperative approach have been well proven, ....."

Some of the most important aspects of the cooperative approach in forest tree improvement programs cited by Zobel and Talbert include:

- (1) A common, ultimate objective for all cooperators, with well-planned short - and long- term objectives;
- (2) Enthusiasm, a full commitment, and equal authority, responsibility, and benefits by each member of the cooperative effort;
- (3) Each cooperator must have part of the program — "Development and tests of improved materials should be on the land of the cooperators. Contributions of money are not enough";
- (4) Good communications — "Information and ideas must be fully exchanged among members; a proprietary attitude cannot prevail";
- (5) Strong leadership — the program must have a competent coordinator, responsible to an advisory committee of the cooperative's membership but with adequate authority over the operations (broad decision-making powers), who directs the actions to achieve the objective(s) of the cooperative effort. Cooperatives administered by committees often fail;
- (6) Supportive (basic or fundamental) research for the applied program is essential; and
- (7) "EITHER CONDUCT THE PROGRAM CORRECTLY, WITH TOTAL SUPPORT IN MANPOWER, FACILITIES, AND EQUIPMENT, OR DO NOT DO IT AT ALL."  
AMEN!!

**REGISTRATION**

**PENNSYLVANIA FORESTRY ASSOCIATION/  
PA CHAPTER-AMERICAN CHESTNUT FOUNDATION**

**Meeting in Harrisburg September 25-26, 1998  
Sheraton - East Hotel, Exit 29 of I-83 next to The Point Mall**

**H**ave you met your state Senator and Representative? Do they know of your concerns about our forest lands in Pennsylvania? Do they know of the efforts being made to restore that unique and beneficial component of the forest, the American chestnut tree? Perhaps now is the opportunity for you to make known your concerns about forestry and other conservation issues. Come to Harrisburg! Make an appointment to visit your legislator the day before the meeting.

Friday's PFA tour will demonstrate the management plan of Joe E. Ibberson. Joe started with a small wood lot on Peters Mountain and developed it through the years to the large tree farm it is today. Then we go back to Harrisburg and The Capitol Area Greenbelt, an excellent example of urban forestry with its beautiful, living green necklace around our capitol city.

Saturday's PA-TACF tour near Middleburg will feature lunch followed by a walking tour of Chandis Klinger's woodland including activities in timber stand improvement and experiments in establishing chestnut trees within cleared or thinned areas in the woods. Directions to the Klingers will be handed out at the meeting.

<b>Registration</b>	<b>Deadline: September 9</b>
Name(s) _____	
Street _____	
City/State/Zip _____	
Phone: _____ e-mail: _____	
<b>Meeting Registration</b>	
Individual	# ____ x \$20= ____
Couple	# ____ x \$35= ____
Plastic Name Tag(s)	# ____ x \$ 3= ____ [optional]
<b>Banquet Entree</b> (choose one per person)	
Roasted Top	
Round of Beef	# ____ x \$25= ____
Chicken Breast	# ____ x \$25= ____
Supreme	
<b>Friday Tour</b> (including lunch)	
Per person	# ____ x \$20= ____
<b>Saturday Breakfast Buffet</b>	
Per Person	# ____ x \$9.50 ____
<b>Saturday Lunch and Tour</b>	
(Lunch provided, transportation on your own)	
Number planning to attend _____	
<b>TOTAL: \$</b> _____	
Make checks payable to the <b>Pennsylvania Forestry Association</b> and mail to: PFA, 56 E. Main Street Mechanicsburg, PA 17055	

<b>Agenda</b>
<b>Friday, September 25</b>
8:30-4:30 Field Trip including bus transportation and lunch 7:00 PM Banquet Speaker: Honorable Stephen R. Reed Mayor of Harrisburg Awards Ceremony and Other Presentations
<b>Saturday, September 26</b>
7:30 AM Breakfast Buffet Breakfast Speaker 9:00 AM PFA Annual Business Meeting Noon PA-TACF Lunch and Tour Middleburg, PA
Room Reservations must be made directly with: <b>Sheraton Inn - Harrisburg</b> <b>800 East Park Drive, Harrisburg, PA 17111</b> 1-800-325-3535 717-561-2800 FAX: 717-564-2080 PFA Rate: \$79 - Single, \$89 - double (plus tax)

**PA Farm Show 1999**

**CONTACT: Dan Heacock - home phone 717-957-2733; work phone 717-232-5300**

Now that we are in the hot days of summer, I have a cool thought for your;

*“Winter = Farm Show in Harrisburg PA.”*

The chapter has already reserved and paid for a booth in the Family Living Center section of the Farm Show complex. The next newsletter will not come out until the end of the year, so take note of the Farm Show dates, **January 4 through January 14, 1999**. Let me know if you would like to help staff our chestnut display.

---

**Joint meeting with Pennsylvania Forestry Association**

**CONTACT: Chandis Klinger - home phone 717-837-0457 after 5pm**

Following the Pennsylvania Forestry Meeting on **September 25-26, 1998** the group is invited to a walking tour through the woods of Chandis & Violet at their home in Snyder County near Middleburg. It's a one hour drive from Harrisburg. Lunch will be provided by the Klingers. Things to see are Chandis' activities in timber stand improvement, a stand of native American chestnuts growing from stump sprouts, and the results of his experiments in growing chestnuts within cleared or thinned areas of the woodland. Chandis has tried numerous techniques for growing chestnut seedlings within his woods. He can show and tell about what has worked and what has failed. And he does so in a humorous way. See page 11 for more information on the PFA Meeting.

**The Pennsylvania Chapter of the American Chestnut Foundation**

**MEMBERSHIP APPLICATION**

Our members keep up the enthusiasm and interest that helps to bring back this once magnificent tree from the brink of extinction. The Chapter and Foundation depend on the membership for support and volunteer activities.

**Sign-up a friend...**

Please send the application information including \$40 annual dues to:

**TACF, 469 Main St., P.O. Box 4044, Bennington, VT 05201-4044:**

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

**Mailing Address:** \_\_\_\_\_

**County** \_\_\_\_\_

**E-Mail** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

*TACF is a 501(c)(3) non-profit organization. Contributions are tax deductible to the full extent of the law.*

---

Pennsylvania Chapter of the American Chestnut Foundation  
800 East King Street  
York, PA 17403

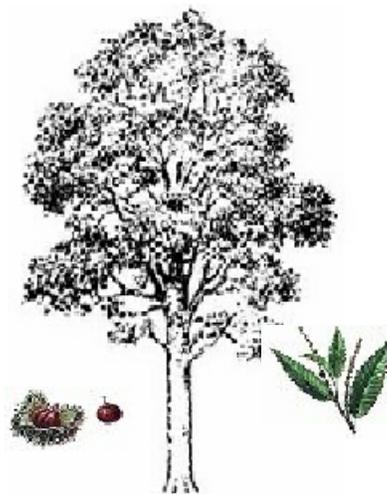
**Dedicated to restoring the American Chestnut**

**L**umber tree

**E**cological link

**A**bundant food  
for wildlife

**F**orest in good  
health & balance



Nonprofit Organization  
U.S. Postage Paid  
Claysburg, PA 16625  
Permit No. 45

**Become a life giving leaf of the American Chestnut Tree with your membership dues or donation.**