

The BURR



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New Genes from Local Survivors for Chestnut Orchards

Adding more pure American genes to the backcross breeding program was the theme of Virginia's first American Chestnut Foundation workshop held March 24th at the historic John Barton Payne building of the Warrenton Public Library.

The day long program was designed to enlist chapter volunteers across the state to find and pollinate regionally adapted trees that will broaden the genetic base for future generations of blight resistant trees. Fifty members from the northern part of the state listened attentively as chief American Chestnut Foundation scientists Paul Sisco and Fred Hebard reviewed the history of the chestnut's demise and the latest research that underpins TACF's two decade-old breeding program. Paul Sisco pointed out the lingering economic impact of chestnut years after their death, including the wood's dual role in producing tannin for domestic tannery's, with the resulting wood pulp was used to make paper for Champion Paper Co. until 1951.

In morning and afternoon sessions Drs. Sisco and Hebard alternated with presentations that recounted the beginning history of the TACF breeding program in Connecticut and New York. These were built on the original American Chinese crosses from the USDA's abandoned program and expanded again to TACF's three farms at Meadowview, Virginia.

Currently members support funds Fred Hebard and farm staff's efforts to grow out 26,000 trees for many of the gene lines used throughout the country, having selected parents from each generation with apparent blight resistance as the hybrids become more and more American.

Within the last decade adjunct efforts to study the vulnerabilities of the blight fungus, and new research support from the Forest Service and the National Science Foundation are refining TACF's understanding and breeding approach. In the works are a gene map of

Chinese chestnut to map out the number and locations of those conferring resistance, and increased ability to test very young crosses for levels of blight resistance.

Local volunteers working with foresters and landowners have a crucial role to play. According to Dr. Hebard many surviving natives may be infected with hypo virulent strains of the blight. This allows them to survive longer to produce viable nuts. Location committee members who can find these trees, monitor them and pollinate them effectively will be able to provide cooperating orchard owners with good supplies of nuts to propagate.

Member volunteers can help plant and tend to get orchards established quickly. At the meeting were several possible orchard planters from Piedmont, landowners whose commitment to restoring the ecologically important species, will extend to planting, growing out and testing new trees for blight resistance over a decade long evaluation process. In the long run resistance bred into a genetically diverse population, and viruses that attack the blight fungus may combine to speed the day when trees can be released back to the wild.

During the luncheon break, Dr. David Carr, curator of the University of Virginia's State Arboretum at Blandy, spoke to the group about other imported pests and diseases that have decimated native species, and the attempts to soften their effects on existing ecosystems. The State Arboretum has expressed interest in establishing a backcross orchard.

KEEP IN TOUCH: This winter Northern Virginia members were able to get local working groups off to a quick start with ambitious plans for 2007. Two factors were key. Member e-mails allowed people to meet and help when they could on quick notice; and the Maryland chapter shared their science staff and hands on knowledge to prepare us for our first growing season. This strategy stretches ACF funds while shrinking time and distance. Strengthen our local efforts by sharing your e-mail address with us at vachestnut@grthompson.com.

A Chestnut Walk in the Catoctins

by *Bill Hunley*

Several members of the Virginia Chapter were invited by Kathy Marmet to attend a meeting March 17th to view some of the Maryland Chapter's American chestnut plantings. After a warm welcome by Kathy, the group toured the chestnut orchard at Fox Haven near Jefferson, Maryland. Bob Arnold, of the State Arboretum at Blandy, Virginia, Andrew Fisher and Mark Ohrstrom from Fauquier County accompanied George and Rab Thompson as Bob Strasser led the tour through the four acres of plantings with an average age of two years. The Virginia guests were among half a dozen landowners who have expressed interest in expanding the backcross orchards in the northern half of the state as TACF program enters its next phase.

Bob explained the organization of the orchard, the care of the trees and the need for a 7 foot deer fence to protect the young trees from deer. The plantings have to be protected from the time of seed planting from a variety of animals, including squirrels and deer. Rats, mice and squirrels will dig out the seed nuts and deer will browse off the tops of the seedlings unless they are protected.

fascinating facets of developing blight resistant American chestnuts. The chestnut trees ranged from one to seven years old, with many young whips, a number of stumps indicating where a tree grew with insufficient blight resistance and was removed (some of them were putting up sprouts for another try). There were few larger trees left from 5, 6 and 7 year old plantings. These trees are from the second crossing, hence 75% American chestnut. The older trees showed cankers and scars where they had been inoculated with the blight fungus, some of them several times, to track their blight resistance. The ground under the older trees were littered with chestnut burrs, the nuts having been gathered for future plantings.

Bob Strasser pointed out that there are several strains of the blight in the trees, some of it intentionally inoculated from controlled blight material, but some naturally inoculated from wild strains from the surround forests. A surprising 57 varieties of the blight have been identified, each with its own peculiarities, a further challenge. The research work involved in these orchards was a real eye opener.

Bob Arnold, the Arborist at the Virginia Arboretum, expressed definite interest in instigating a similar breeding program at Blandy. Andrew Fisher, of Roland Farm and the orchardist Mark Ohrstrom were researching the feasibility of similar nurseries. Before the return to Virginia, we passed a mountainside covered with rotting carcasses of chestnut trees. What a sign and a treasure that must have been before the blight!

Finding Local American Survivors

by *Deborah Fialka*

With the first June pollination campaign coming up, activated volunteers of the Location Committee have selected trees from 6 separate sites across Northern Virginia. The chief criteria, both for ease of monitoring and number of nut clusters that can be pollinated in the brief two week season is accessibility. It's all about being in the right place at the right time. Though thousands of American chestnut stump sprouts probably flower throughout the Blue Ridge, Massanutten and the Appalachian ranges, most are so inaccessible that getting ladders and volunteers crews to these remote sites will have to wait until we have local volunteer crews in every county. For now, the best candidates are found by searching 'edge habitat' along roads, parks fields, and in one notable case, a townhouse development tree save area.



Pictured from left to right: Rab Thompson, Kathy Marmet, Robert Strasser and Bob Arnold

We turned off MD Rt. 15 onto Mink Farm Road and followed that north to the location of a mountaintop orchard. Again Bob Strasser conducted a tour of the planting and gave a continual discourse on the many



Pictured: Brian Smith, Location Committee

This year candidate trees were found in Arlington, Fairfax, Loudoun and Fauquier counties. In Arlington County alone, 3 survivors flower less than 3 miles from the US Capitol. In Fairfax, the 40' foot tree hides in plain sight surrounded by a rectangle of town homes. ACF member Brian Smith, found that tree, following a tip from Tim Moore. Brian has scanned dozens of parks, subdivision streets and roadsides across the state in the last few years. Since he graduated from Longwood College. When informed of the rarity of the trees, most landowners, public or private, are eager to cooperate in their restoration. Loudoun and Fauquier trees are resurgent in forest settings where gaps in the canopy, or along a field edge has allowed a stump sprout to take off on a race between sexual maturity and the onset of the fungal blight, Old farm and logging roads can be cleared to get trucks and tree ladders to these trees.



Pictured: Paul Sisco, George Thompson & Fred Hebard

Paul Sisco, George Thompson and Fred Hebard visit a healthy candidate for backcrossing. Northern Virginia volunteers will monitor the onset of the bloom season using on-line pollination guides provided by staff scientists Fred Hebard & Sara Fitzgerald. It's not too late to search out pure American survivors in your area. E-mail our chapter Location chair Ralph Bolgiano at castanear@yahoo.com to get links to the updated data base of pure Americans in your area and to volunteer.

General Assembly Honors Virginia Officer, Dr. David Skewes

The Virginia General Assembly honored VATACF Vice President Dr. David Skewes with a letter of commendation for his decades of work in wildlife and habitat conservation throughout Virginia. A native of Dublin, Va., Dr. Skewes has long been active in game management in Virginia and South Dakota. He is shown here on the left with nine members of the VATACF Board who met with Marshal Case and Dick Will in Natural Bridge, Va. January 19-20.



It's Pollination Time - We Need Worker Bees

To monitor and pollinate trees, we will need 10 to 12 people working in 2 teams on two weekdays & two Saturdays in early June. In order to volunteer for training for this interesting work, call or e-mail Diane Hume at 540-364-0364 or vachestnut@grthompson.com. The ACF website www.acf.org posts useful information on identification and pollination. Click on state chapters and then Virginia for the latest postings, dates and location information after May 1.

Bartlett Celebrates 100th, Backs Chestnut Recovery

As part of its Centennial celebration, Bartlett Tree Experts is donating 2 manned bucket trucks to help the Virginia chapter volunteers do their first backcross pollinations on Northern Virginia survivors this June. Leesburg office head Tom Armstrong, a Marshall resident, announced the collaboration with VATACF. His Springfield counterpart, Kurt Mohr, agreed to help with pollinations in Fairfax County. Healthy forest restoration is a shared goal of the pioneering arborist firm, which was founded in Stamford Connecticut in 1907 by

Dr. F.A. Bartlett. Still family owned, Bartlett has 100 branches in 18 states, and 3 foreign countries. Bartlett's bucket trucks will allow access to more and taller flowering trees during the two week pollination season. The trucks and crew will extend to 35 or 40 feet the chapter's ability to work trees peeking through surrounding canopy; and save equipment set-up time between trees.

How Can YOU Help VATACF??

Because Chapter funding is limited and is solely dependent on our membership, you could help by sending us your email address at vachestnut@grthompson.com so we can send you the next newsletter in color to your computer. We need you to volunteer to help the organization by serving on one of our committees, Location, Membership, Publication, Research or Program. **Any** time you can provide would be greatly appreciated. We hope you have enjoyed our first publication of The Burr.



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