

The BURR



The Semi-annual Newsletter of the Virginia Chapter of The American Chestnut Foundation
Fall 2007 Volume 1 Number 2

First Pollination & Harvest Promising in Northern Virginia

By John (Jack) LaMonica

With the understanding that the true measure of our success won't be measured till germination time next year, I am confident in stating that our first season of 2007 was very successful in many ways. This can be attributed to the number of volunteers involved and the high level of enthusiasm, as well as the numbers of nuts harvested for planting.

It all began with the meeting on March 24th which established our goals, methods, and a schedule to guide us. This was followed by site visits to identify the most likely candidates for the backcross program.

Members of the Maryland Chapter held an important training meeting in Marshal on May 24. This was critical in establishing the skills and procedures necessary for success.

Bagging and pollination were in mid June; two weeks apart due to the availability of the "cherry picker". Harvest and processing took place two weeks apart in late September and early October. In summary, we set out to start at least 4 lines this year and accomplished that!

A great deal of thanks is owed to Bartlett Trees for their contribution of a truck and operator for three days. Two lines and a success of a third would not have been possible without them. Also, the volunteers who set aside at least 4 days to this effort were invaluable. Opening chestnut burrs can be a bonding experience.



Picture above: Brian Smith, Deborah Fialka, Alan Plisch, Leo Dillon, Kathy Marmet, Diane Hume, Jack LaMonica and Robert Strasser, ctr.

Next year we look to build on our numbers, given the successes and lessons learned this year. Only a few new mother trees have been identified so far. Additional equipment (ladders/lifts) will be needed. We would also like to identify teams or captains for each tree to help with scheduling and status reports. Training, bagging and pollination will occur from Mid May thru the third week in June. We will provide dates for you in the spring edition of The BURR.

Trees: D-1: Initially, a tree on the property of Mr. Hunter deButts was at the top of our list. During the initial site visit with VATACF President, George Thompson, it was obvious that the tree had not survived. However, an old (parent ?) tree next to it was hanging on and could produce some burrs. But a third tree (D-1 Woods) at 8-10" and 60 feet plus in height, was found in line with the other two. This tree showed some minor signs of blight and showed early maturity of flowers. It yielded many nuts and is expected to fill out its line next year as VATACF 2007 - 1 (backcross line number).

Another tree, D-3 known as Dondoric, on the same owner's property, but more than a mile away was quite large as far as the canopy is concerned and yielded the most nuts; enough for a full line (100+) VATACF 2007-2.

Finally, D-4 was located near the deButts home is a small bush like tree with many burrs for its size. It will need at least another year to complete a line; VATACF 2007-3.

We were very excited about a tree near George Mason University (FX-1) which was growing (naturally) in the center of a townhouse parking circle. We were only able to place 13 bags. Unfortunately, no nuts were recovered from it. Hopefully it will survive long enough to continue in the program. About 5 "open pollinated" nuts, however, were recovered; potentially insuring its contribution to genetic diversity.

L-1 is located along a "fence line" south of Marshall has a large south-leaning trunk (24") and is approximately 60' tall and received over 50 bags with 60 nuts; VATACF 2007-4.

New mother trees are being considered; and we would like to hear from you. If you think you can help us, if you think you can develop your own team, we want to hear from you. This is a very exciting time for our Chapter and we want you to be a part of it.

Meadowview Hopes are High for New Nuts, New Plans

TACF Research Director Fred Hebard reported to the 24th Annual Meeting of The American Chestnut Foundation in Burlington, VT that the Meadowview staff harvested 1,880 fifth generation backcross seeds, despite a drought of historic proportions. TACF members have been waiting for these seeds for decades. Created from the second generation of 15/16 American parents, some of these nuts will be added to the 217 B₃F₃ trees planted out to test for enhanced blight resistance at the research farms. Under an agreement with the US Forest Service, half of the remaining nuts will be planted on Forest Service lands to determine growth and blight resistance in actual forest settings. TACF members are also in line to receive these nuts.

With 32,000 nuts harvested in the B₃F₂ generation that produces the potentially resistant trees, the farms are closing in on finishing 30 lines using the Graves and Clapper resistance. The Pennsylvania and New York chapters have also grown significant numbers of B₃F₃ nuts.

During the year Hebard reported that staff scientist Bob Paris and associate William White also:

- Isolated strains of the blight fungus from severe cankers on resistant trees, both crosses and pure Chinese, and tested their general virulence.
- Pushed to develop methods for more rapid screening of blight resistance in younger seedlings to speed research done at Meadowview.

- Improved the assay for pollen germination, to detect genetic abnormalities in trees and to try to establish links between pollen quality and nut yield so that that state chapters could be given the highest quality pollen.
- Made specific crosses between potential sources of blight resistance, in order to explore the genetics of resistance and to identify the best to use for future breeding.

A grant from TACF to Texas A&M, administered by Meadowview, is investigating possible differences between Chinese and American chestnut in reciprocal translocation of genes among chromosomes. The cytogenetic studies are being done by U.S. Forest Service scientist Dr. Nerul Fahri and colleagues at Texas A&M. They will clarify whether a reciprocal translocation has occurred and whether it is interfering with recovery of highly blight resistant backcross trees.

At the conference, TACF research scientists also discussed the advantages of traveling to China next year in-conjunction with an international conference on chestnut in Beijing. National TACF voted to move forward and trademark the B₃F₃ nuts and all future progeny developed through the breeding program. At a TACF Annual meeting bursting with scientific and practical advances toward the goal of getting American chestnut ready for the forest and the general public supportive of our goals, this news was welcome indeed.

VA TACF Salutes Member Carl Mayfield

Commander Carl Mayfield served 30 years in the Navy, retiring from heading the Navy's Weapons Systems and Engineering Command in 1979 to run his own firm for defense contracts; but his diligence, persistence and imagination have created his own research orchard in the Fort Valley since his second retirement.



Mayfield, now 87, purchased 24 acres of forest land two hours from his Springfield home for camping. To his delight it was full of chestnut sprouts, a welcome reminder of the five chestnut trees he harvested on his Alabama farm as a boy.

Having read an article about Meadowview in 1993, he visited Fred Hebard and was given a handful of pure American nuts. He joined TACF, reclaimed a quarter acre with his sons and planted them out. By 1996, with the orchard expanded, he requested B₂F₂ nuts when they became available. The response was tepid, perhaps a few after all he had no track record as a nurseryman. He was a pioneer in sonar, not silviculture. But then in the fall of 1996, 300 nuts arrived; and as Mayfield described it, "I never worked so hard in my life." Quite an admission from the man who co-wrote the mine removal plan for North Korean harbors during the Korean War. The orchard clearings grew as Mayfield and his son Andy dug 300 holes and excavated rocks. Then Carl devised wire cages that wouldn't trap the growing trees, and spent the better part of each week traveling to work in the orchard for the next 4 years. Almost 150 of the original backcross plantings survived. They began to bloom in 2000, and produced nuts by 2003.

One of the Mayfield's more imaginative feats was cutting pollen-laden branch tips from the most resistant known survivor in Virginia, the declining Amherst tree, putting the stems in water in 4 milk jugs, hauling them up next to the canopy of his surviving chestnut with string slung over adjacent oak limbs to pollinate a bountiful harvest of pure American nuts. Though his mother tree died, some of its progeny live on. Fifty were sent back to Meadowview as Amherst X 'Shenandoah'. Five of these survive in his own plots. He also planted 12 to 15 trees from backcrosses sent to him by Dave Armstrong from the Pennsylvania chapter in 2006. The orchard now covers 3 acres in a surrounding tract of 37 acres.

To boost the number of trees that show signs of resistance, Mr. Mayfield also taught himself to graft desirable scion wood from the Amherst tree onto Chinese chestnut root stock. Four of these survive, one in his backyard.

In recent years, Carl has learned and taught nut grafting to the Maryland chapter to speed the production of promising crosses, using information shared by the Tennessee chapter. Oddly enough his biggest problem with young producing trees has not been deer. They lose interest, he says, when the trees top 6'. This last year, it was bears, which climbed into three young trees, breaking off branches and chewing off the unripe burrs. Unbearable until he can devise a way to thwart them.

Drought and recovery from surgery slowed his research this year; only a hundred nuts were harvested by his two sons. But Carl Mayfield's efforts in Virginia and Maryland exemplify the spirit of 'citizen science' that is helping TACF get closer to returning viable chestnuts to local areas. He was recently awarded a Certificate of Appreciation signed by Virginia President George Thompson and President and CEO Marshal Case on behalf of TACF for his inspiring example.

Virginia Chapter Caps First Year at Monticello

Sixty-five members convened at the Piedmont Virginia Community College in Charlottesville on October 6th where the first Annual Membership meeting led off a full day of lectures followed by a reception and Chestnut planting at the Jefferson Foundation Library at Monticello. With new links with the University of Virginia to celebrate, it was decided to hold the annual meeting in Charlottesville, to tap the energies of the university's Environmental Science faculty, and to celebrate the American chestnut's importance in the state's history.

UVA's State Arboretum and Blandy Experimental Farm near Winchester are slated to be the site of VATACF's first breeding orchard, to be planted next spring. The Virginia Department of Forestry's chestnut research planting at Lesesne State Forest, currently headed by VATACF Director, Wayne Bowman, is in Nelson County a short drive from Charlottesville.

Virginia President George Thompson reported that an agreement had been reached with Roland Farm to plant a breeding orchard next spring, in addition to the agreement with the State Arboretum. The historic Poplar Springs property near Lynchburg and Mt. Zion Church Foundation near Aldie are actively working to establish two more orchards. Trees to stock orchards at these properties will come from crosses made by chapter members in 2008 and subsequent years.

The VATACF Board of Directors suggested and members voted in changes to the By-Laws to add two Vice Presidents charged with jump starting key components of a Strategic Plan adopted by the board. Cathy Mayes, who presented details of the Strategic Plan, was elected Vice President for Public Relations and Development. Kathy Marmet, immediate past President of the Maryland chapter, was elected Vice President for Education to develop curriculum and links with elementary school programs.

Two new Directors were elected, Ridge Schuyler, who currently directs The Nature Conservancy's Piedmont initiative for a two year term and Charles Mackall, Fauquier Farm owner and founder of the Washington investment firm, Avenir Corporation, for one year.

Fred Hebard led off the talks by describing the history and current state of chestnut and blight in Virginia, and followed with a description of the National breeding program and the role the Virginia chapter might play.

After lunch, Marshal Case, national TACF President and CEO, introduced *Mighty Giants*, a chestnut anthology produced by TACF for the coming 25th anniversary. The first copies were

awarded to Virginia Gold Leaf members, who sparked chapter formation in 2006 among them were John and Bernice Hoffman.

The afternoon lecture sessions focused on issues with important consequences for chestnut restoration:

- Meadowview Geneticist Bob Paris described efforts to identify new sources of blight resistance and incorporate them into the breeding program to help ensure the long term stability of blight resistance.
- Encouraging research results for mine site restoration to productive forest, long espoused by Dr. Jim Berger of the Virginia Tech Forest Science faculty.
- Dwindling of genetic diversity among native survivors due to deer browse and other changes presented by Dr. Henry Wilbur of the UVA Dept. of Environmental Sciences.
- How markets change reforestation species in the Appalachians by Dr. William Luppold of the US Forest Service.

As icing on the cake, the Jefferson Foundation Library welcomed the planting of a B₂F₃ backcross chestnut in their garden, within sight of Mount Alto, where Jefferson had chestnut cut for the structures and fences that went up on his 'little mountain' just below. Chestnut beer donated by Michael Michele was used to toast the occasion of the chestnut's return to a setting noted for its beautiful trees in Jefferson's time. Eleven guests joined the day-long event because of a front page story in the Charlottesville Daily Progress, publicizing chestnut restoration efforts throughout the state. This brings to four the number of local articles about the foundations work so far this year.



Pictured Left to Right: Member, Jack LaMonica; Chestnut Restoration Biologist, Robert Strasser, TACF President & CEO, Marshal Case, VATACF President George Thompson and Joseph Nassif

VATACF WEBSITE: WORK IN PROGRESS — *We have been working on the creation of a VATACF website. It's not available YET, however soon you will be able to access and read about what is going on with the Virginia Chapter. Some of the topics to be highlighted: Chapter Strategic Plan, the Board of Directors, Minutes from the Charlottesville Meeting, Financial Page and much MORE.*

Be on the lookout for

www.VATACF.org

Partnerships Weave Strong Web of Support

If you have wondered what you could do in your area to bolster chestnut research, here's some heartening evidence of the power of connections that might inspire you. During the first year we have presented our story, shared research, forged bonds or gotten active support from the following organizations or their members.

- Smithsonian Conservation Education Center, Front Royal
- Willow Grove Inn, Orange
- Conservation Forum of the Garden Club of Virginia, 'Stratford'
- National Wild Turkey Federation
- Virginia Department of Forestry
- Northern Virginia Regional Park Authority
- Arlington County Parks Department
- Arlington County Urban Forestry Commission
- Fairfax Country Tree Commission
- Park West Community Association, Fairfax
- Vale Park Homeowners Association, Oakton
- Blandy Experimental Farm of the State Arboretum of Virginia, Winchester
- Roland Farm, Middleburg
- Piedmont Environmental Council, Warrenton
- Mt. Zion Church Preservation Association, Aldie
- Jefferson Foundation Library, Charlottesville
- Monticello, Charlottesville
- Poplar Forest, Lynchburg
- Virginia Tech's Department of Forest Science, Blacksburg
- University of Virginia's Department of Environmental Science, Charlottesville
- The Nature Conservancy
- The Native Plant Society

In every case, direct contact with a fellow member or like minded individual resulted in an invitation to speak, an offer to help find or monitor trees, an acceptance of a position on our Board of Directors, or partnership in a project to grow out TACF backcross orchards.

With the harvest season over, Board members and staff are eager and willing to address any group you think might be a good fit with our goals of environmental stewardship and restoration. Schools, garden clubs, local land trusts, and Native Plant Society chapters are only a few of the possibilities across the state.

You Can Help Tell the Chestnut Story

By Kathy Marmet

Would you like to learn more about the Virginia Chapter and the efforts of the American Chestnut Foundation to return the American chestnut to our forests? Would you enjoy helping the Chapter reach its goal of increasing membership by sharing that knowledge with groups in your community? If this sounds like fun to you, please let us know of your interest.

While the seeds for next year's orchard plantings prepare themselves in cold storage, the Virginia Chapter plans to prepare volunteers to tell the chestnut story in communities throughout the state. We will plan events for this purpose based on the location of volunteers who come forward to help. Even preliminary contact with the organizations close to your heart can bear fruit down the road. So don't hesitate to call Diane Hume at 540.364.0364 or email us at vachestnut@grthompson.com.

Jon Rockett Propels Chapter

VATACF Director Jonathan Rockett is a man in a hurry. Trained as a forester, his passion is mineland reclamation in the rugged coalfields of Southwest Virginia. His official title is the Area Extension Agent for Mineland Restoration and Forestry, Virginia Tech and the University of Virginia in Wise County. He serves as the Outreach Educator for the Powell River Project on 1100 acres of coal mine sites that are "works in progress" in the restoration progress.

Each year he brings a full range of students from elementary through graduate school, and any other groups he can find to demonstrate the importance of researching the best and most cost effective ways to restoring forest to these disturbed lands.

He has long been impressed with the potential of chestnut to out compete grasses and exotics on mine soil. Getting the reclamation techniques right the first time is the goal of the test plots that dot the Wise Country coalfields.

Jon Rockett confesses to "stirring the pot" a year and a half ago at Meadowview when he, along with Neel Rich, challenged local long time supporters of TACF's chestnut breeding project to jump start the Virginia chapter by giving \$1,000 each to expand breeding orchards across the state from its epicenter in Southwest Virginia. He, in effect invented "gold leaf" membership to support chestnut restoration.

With the first generation of trees with improved resistance ready to be bred, and one of the largest memberships of any chapter waiting to take a more active role, he figured separate chapter status was long overdue. Nine other donors agreed. His efforts have coincided with success at the national level to include pure American chestnuts in the mix of native forest trees recommended by the Appalachian Regional Reforestation Initiative for planting this year in coal fields across the historic chestnut range. Once available, blight – resistant backcross American chestnut will be substituted for the pure American chestnut trees.

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