

Chestnut Mast



Volume 7, Issue 2 Newsletter of the Carolinas Chapter of The American Chestnut Foundation Harvest 2005

Carolinas Chapter Marks 5th Anniversary of Breeding Program



The Carolinas Chapter breeding program got its start in the summer and fall of 2000, when Dr. Fred Hebard drove a 48-foot bucket truck down from Meadowview, VA, to pollinate and then harvest a tall surviving American chestnut tree on Wayah Bald in western Macon County, NC. Now, in the fall of 2005, it seems fitting to review the progress we've made by illustrating what happened to those seed.

Pollen from moderately-resistant trees at TACF's Meadowview, VA, Research Farm was used to pollinate a 40-foot surviving American chestnut tree in Macon County, NC. About 400 seeds were harvested in September, 2000.

Nuts were shucked from the spiny burs and sorted into groups of 10. They were then labeled and stored in peat moss in a refrigerator until March of 2001.

See 5th Anniversary, page 4

◀ *Andrew Slack, of UNC-Asheville, measures the height of the tallest tree in the Chapter's oldest orchard in Haywood County during spring, 2005.*

2005 Summer Pollinations

The Carolinas Chapter again benefited from a grant from the National Forest Foundation (www.natlfoundation.org) that supported two student internships to assist in pollinations and orchard maintenance during the summer season. Austin Wagner, a graduate of Asheville-Biltmore Technical College, returned for a second year. He joined Simon Goldberg, a graduate of Tufts University in Massachusetts. A "freebie" for the chapter was Andrew Slack, who was completing the requirements for his degree at the University of North Carolina - Asheville.

See Summer Pollinations, page 7

*Carolinas Chapter interns
Simon Goldberg, Andrew Slack,
and Austin Wagner. ▶*



Chapter Starts Endowment

A Request from Past President Ron Myers

What will your legacy be? Have you ever asked yourself that question? Try it now for a minute. I have asked myself this several times as my 40th birthday approaches. That is why I joined CC-TACF—to make some type of contribution of my time and money to bring back a fascinating tree species. I was President of our Carolinas Chapter TACF from 2002 to 2004. As a founding member of our Chapter, I remember that we offered a Charter Membership to new members willing to see our organization flourish and to get off to a productive start. Each Charter Member gave an extra sum to help secure the Chapter's financial future. We have been keeping this extra money secure in escrow waiting for the proper way to invest it.

Well the time has now come! The Carolinas Chapter-TACF Board of Directors has recognized the need to set up a more permanent and secure endowment vehicle for members and donors who wish to ensure the future of American chestnut restoration in the Carolinas. The goal of this endowment is to build up enough principal to generate income for operating expenses for chestnut breeding, research, and restoration projects in North and South Carolina.

See Endowment, page 5

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THE AMERICAN CHESTNUT FOUNDATION

Carolinan Chapter

The American Chestnut Foundation

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Carolinan Chapter Endowment Fund

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c/o Paul Sisco, One Oak Plaza,
Suite 308, Asheville, NC 28801

See article on page 5.

President's Message



Greetings to all members and "should be members" of the Carolinas Chapter of TACF! This year has shown slow but steady progress as in previous years. At Meadowview in our central breeding program, the goal remains to develop a chestnut tree resistant to chestnut blight; but we want not just a single tree, but rather 30 large families of trees. The members of each family are to be kept unrelated to all the other families until the last generation when all families will be allowed to breed by open pollination. For the past three years Meadowview has completed yearly nut plantings in a B3F2 seed orchard using Clapper as the source of resistance. Last year, Fred Hebard began a Graves seed orchard also. Once the seed orchards are completed, there will be many thousands of seedlings. Having matured to their second or third year, they will be screened for *Cryphonectria* resistance and American characteristics. Only about 1 out of 150 will be selected to participate in nut production.

In the meantime, our chapter, under the guidance of Paul Sisco, has 17 completed lines with the goal being to have 20 lines. Also, unique to our chapter is our Phytophthora screening program. Using unscreened B2F2 nuts in years past, only 1 in 20 seedlings would be expected to survive to 4 years of age. But by use of test inoculations and vigorous selections, Steve Jeffers at Clemson University and I have seen survival improve to 95% for 1-year-old seedlings.

Our chapter breeding efforts this year resulted in 10 trees being pollinated with 327 bags being placed. One of those is a mating of two B2F2 trees, one parent is Phytophthora resistant and the other tree has survived in Alabama. This pairing will yield B2F3 nuts.

Membership presently is 500 members, which makes us the third largest chapter behind Pennsylvania and New York. When discussing membership with friends, point

out that they can join online by visiting our excellent website, www.carolinan.org (maintained by Doug Gillis).

The Board met on August 13th at the home of Steve and Jane Motsinger in Elkin, NC. Several bylaws changes were proposed. One would extend the term of the officers to two years. The vice president would be elected every other year and he or she would be scheduled to assume the office of president when the "old" president rotates off. K.O. Summerville has been nominated to become the president during the next election cycle, having served the past two years as V.P. Finally, it was decided to switch the time of the annual Board meeting to the spring and have the general membership meeting in August or early September. The meeting for next year has been tentatively scheduled for the NC Arboretum in Asheville on Saturday, August 26, 2006. This timing will be more conducive to field trips (trees leafed out) and still not interfere with nut harvest.

We have been blessed with an excellent Board, some of whom have served since the first organizational meetings in 1997.

We have been blessed with an excellent Board, some of whom have served since the first organizational meetings in 1997. If any of you, the membership, think you might want to serve as a Board member, contact me at s4e4j4@bellsouth.net or speak to any present Board member.

The finances of the chapter are still operating on the proverbial shoe string. We did receive a \$2000 gift from Will Reynolds which was much needed and appreciated. Also we received a matching grant from the National Forest Foundation for \$100,000. These grant monies are to be shared with KY, TN, NC, SC, and GA.

The Board also authorized the establishment of an endowment through the NC Forestry Foundation, Inc. This requires a minimum investment of \$15,000 to get started.

You will find more information about the matching donation on page 5. Three Board members have pledged to match any and all gifts up to \$2500. PLEASE, feel free to give any amount, just make sure you indicate on the bottom left of the check that it is for the "CC-TACF Endowment Fund."

Finally, thank you for a great year! Can't you almost smell those "chestnuts roasting on an open fire?"

Respectfully yours,

Joe James, President, Carolinas Chapter

Chestnuts in the News



US Postal Service Releases Stamp with American Chestnut

The United States Postal Service released the Northeast Deciduous Forest Postage Stamps on March 3, 2005. The souvenir sheet contains a list of common and scientific names for 27 selected species. The sheet was designed by Ethel Kessler and illustrated by stamp artist John D. Dawson. The website mentions the American chestnut: "Beginning with the majesty of the Northern Red Oak and the complexity of the Eastern Buckmoth, onward to a confrontation with the Black Bear, and the near extermination of the American Chestnut, the reader gains insight into the beauty of the Northeast Deciduous Forest souvenir stamp sheet." To see the stamp sheet and get more information, visit the website: shop.usps.com. Click on Stamp Issues under Collector's Corner and find Northeast Deciduous Forest on the link.



George Bush Plants Chestnut Tree

George Bush planted a 16-foot B1F2 chestnut tree on the White House grounds in honor of Arbor Day, April 29, 2005. The tree came from Meadowview Research Farm in Virginia, where blight resistance was bred into the native chestnut with the help of the Chinese chestnut.



Local orchards give hope for chestnut

This article by Edie Burnette appeared in the Haywood County edition of the Asheville Citizen-Times September 15, 2005. Paul Sisco was interviewed and appears in a photo. See the article online at www.citizen-times.com. Search for "chestnut" in the archive box at the top of the webpage.

Summer 2005 Board Meeting



◀ *Board members at the Motsinger's chestnut orchard: (l-r) Doug Gillis, Scott Pryor, K.O. Summerville, Joe James, Carol Namkoong, Ron Myers, Paul Sisco and John Frampton.*



Paul Sisco reviews the pedigree of chestnuts planted in the Motsingers' orchard.



Jane and Steve Motsinger, who graciously hosted the summer Board of Directors meeting, stand by a chestnut tree in the orchard they manage.

Chapter members Steve and Jane Motsinger graciously offered their home near Elkin, NC, as the setting of the summer meeting of the CC-TACF Board of Directors. General topics at the August 13 meeting included: the web site, progress with the mother tree and pollination programs, establishment of the Chapter's endowment fund, an update on Phytophthora root rot research, and potential changes to the timing of board elections and general membership meetings. During the meeting, Dr. Paul Sisco lead a tour of the Motsingers' well-maintained orchard reviewing the pedigree of the chestnuts planted there.

John Frampton, Chapter Secretary





This 40-foot American chestnut in Macon County provided seeds later used in the Haywood County orchard.



Two feet of growth was typical on seedlings by the summer of 2001.



Volunteers help plant the Chapter's first seed orchard.

The seed were planted in early spring in pots at the Mountain Horticultural Crops Research and Extension Station in Fletcher, NC, where they grew 2 feet tall in the summer of 2001

The seedlings were transplanted to the field in November, 2001. Volunteers came out on a beautiful autumn day to help transplant the potted seedlings into augured holes in the ground on a mountaintop in Haywood County, NC.

During the summer of 2002, the transplanted seedlings grew moderately during their first summer in the ground. Plastic tubes were used to help protect them from gnawing rabbits and voles.

In their third growing season the now well-rooted seedlings grew rapidly, some reaching 10 feet in height. Wire fencing protected the seedlings from deer, while herbicide kept the numerous weeds under control.

By the end of their fourth growing season, the average height of the trees was 10 feet, with some as tall as 13 feet.

Next summer, each tree in the orchard will be inoculated with blight by boring a hole in the bark and inserting a plug containing the blight fungus.

The fungus grows quickly on susceptible trees. These trees will be eliminated from the orchard.

Trees with resistance to the blight will wall off the blight fungus, creating a small canker. These trees will be saved to cross with other moderately-resistant trees in other orchards.

*Paul Sisco, Ph.D.,
TACF Regional Science
Coordinator*



Inoculation is made possible by boring a hole in the bark and inserting a plug containing the blight fungus.



Trees with moderate resistance wall off the fungus, creating a small canker. These trees will be used in future crosses.



Susceptible trees allow rapid fungus growth and a larger canker to form. These trees will be culled from the orchard.



Help Your Chapter by Planting a Chestnut Breeding Orchard

We need three or four more landowners willing to help us by planting a chestnut breeding orchard next year. It's a lot of work, but also a lot of fun watching the trees grow. Here are some things to think about:

- ▶ All landowners are required to sign a copy of TACF's Germplasm Agreement. Copies can be obtained from the Southern Appalachian Regional Office in Asheville 828-281-0047, or by e-mail: paul@acf.org.
- ▶ You would need to dedicate about ½ acre of land for an orchard. It requires intensive management (plowing, weed control, deer control, fertilization, and watering in times of drought).
- ▶ The best land has well-drained soil with a pH from 5.5 to 6.5. Take a soil sample to your local county extension office for analysis. It's free in North Carolina.
- ▶ It takes about 10 years to complete a breeding cycle, so you would need to commit the land for that period. Most of the trees will be susceptible and will be cut down after inoculation. Even the moderately resistant ones will die eventually, but we hope to use them as parents before then.
- ▶ You would be doing a great service to the cause of chestnut restoration, and watching the trees grow is a reward all in itself.
- ▶ The Carolinas Chapter can help with some of the expenses, such as fertilizers and herbicides. It helps if you have a small tractor or if your neighbor has one and can help you.

If you are willing to help, please contact:

Paul Sisco
Southern Appalachian Regional Office,
TACF
One Oak Plaza, Suite 308
Asheville, NC 28801
828-281-0047
paul@acf.org

Endowment Fund

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We will soon be forming a partnership with the North Carolina Forestry Foundations Inc. (NCFF) to set up and manage "The Carolinas Chapter of The American Chestnut Foundation, Inc. Research Endowment." NCFF is the oldest endowment fund at North Carolina State University (pff.ncsu.edu/forestryfoundation.htm). For amounts of at least \$15,000, NCFF is willing to manage endowment funds of individuals and organizations that promote the goals of forest research.

Our CC-TACF Board of Directors has approved an Endowment Fund-Raising Challenge (EFC) to all members to help us reach this \$15,000 minimum required funding level to establish our endowment. The good news is this: Our charter member donations and CC-TACF savings amount to \$10,000. In addition, our current board members have agreed to collectively contribute another \$2,500 to be matched with any member donations during this challenge. That leaves us with a goal of \$2,500 from the general membership to help establish and set up something lasting for the future. I feel confident that you as CC-TACF members, will respond generously to this common purpose.

All funds or financial contributions toward this endowment fund raising can be sent to our designated treasurer for this campaign: Paul Sisco, CC-TACF Endowment Fund, One Oak Plaza, Suite 308, Asheville NC 28801. Checks should be made out to "CC-TACF" and a notation should be made "For CC-TACF Endowment Fund." For more details regarding your contributions please feel free to send me an e-mail at ron.myers@ncmail.net or call me at 919-553-6178 ext. 228.



The American Chestnut Foundation 22nd Annual Meeting, October 28-30, 2005

Where: Lexington, Kentucky
Theme: A celebration of "Challenges and Opportunities"

Featuring
"Welcome to Kentucky" by Kentucky Governor Ernie Fletcher

Presentations
Technical presentations by the Appalachian Regional Reforestation Initiative, Bill MacDonald and Hill Craddock. Keynote Speaker: Marshal Case, President and CEO, The American Chestnut Foundation

Workshops
Dr. Dennis Fulbright ~ Sunshine Brosi ~ Sara Fitzsimmons ~ Mark DePoy

Post-Conference Tours
Shaker Village, Woodford Reserve, or the Kentucky Horse Park

The Griffin Gate Marriott Resort is the conference hotel. Please make your reservation by October 6th.

For more information, call 802-447-0110 or e-mail chestnut@acf.org.
Visit: www.acf.org/AnnualMeeting2005.htm.



American Chestnut Wood Legacies

In this and future issues of the Chestnut Mast, we will feature articles about American chestnut wood on the exterior and interior of buildings. Owners of the buildings displaying American chestnut wood often have great histories to tell of the wood, the tree and its legacy.

Doug Gillis, Board Member

Holiday Inn, Cherokee, NC

Lifelong resident and Cherokee tribal member, James Cooper, each day enjoys the timeless beauty of the American chestnut wood which he extensively incorporated into



the interior of the Holiday Inn in Cherokee, North Carolina. Mr. Cooper and his brother, Candler, built the Holiday Inn in 1973 on family property. When remodeling in 1979, Mr. Cooper used wormy American chestnut that he had salvaged from the American Legion building (built in the 1940s) just prior to it being demolished to make room for a new office building. Mr. Cooper arranged to have the salvaged wood milled by students of the Cherokee High School, under the supervision of teachers. The students also installed the finished wood in the dining room and lobby of the Holiday Inn, doing excellent work. The American chestnut wood with its classic tones and warmth enlivens the interior of the Holiday Inn.



Mr. Cooper used the wood as the theme for the Chestnut Tree Restaurant located next to the lobby. He is reminded of the chestnuts his mother used in baking Indian Chestnut Bread, a delicacy enjoyed greatly by the Cherokee. His mother made the bread using ground corn meal and sweet chestnuts which she formed into a dumpling, wrapped in a



fresh corn husk, and boiled until cooked. The warm bread was seasoned with salt, pepper and butter.

Mr. Cooper has furniture displayed in the lobby area of the Holiday Inn that was made by Homer Fowler using American chestnut wood.

Mr. Cooper has kept alive his respect for and love of the American chestnut by prominently displaying it in the Holiday Inn he manages. He has fond memories of collecting nuts in the fall of the year and enjoying eating the chestnuts his mother included in the corn bread stuffing baked in wild turkey at Thanksgiving and Christmas. His hope is that his children and grandchildren will enjoy the beauty of the tree and its sweet nuts as he did as a child.

The Inn at Ragged Gardens, Blowing Rock, NC

The Inn at Ragged Gardens, located at 203 Sunset Drive in Blowing Rock, NC, was originally built in 1899-1900 and was known as the Washburn House. A.W. Washburn of Charlotte had it built for him and his family and for use as a private boarding cottage. It has served as a seasonal cottage, welcoming guests and residents for more than 100 years.



The exterior of the building is covered with thick American chestnut bark shingles in the rustic style made popular by architect, Henry Bacon, who visited the Linville

area southwest of Blowing Rock during the late 1800s and early 1900s. Bacon, nationally renowned for his Neoclassical design, designed the Lincoln Memorial in Washington, DC. Bacon designed several cottages and community buildings located in Linville.

American chestnut wood is used in the doors and paneling in the interior of the Inn. The reading room is paneled with American chestnut wood. The folding doors leading into the reading room are made of American chestnut. If you wish to visit or learn more about the Inn at Ragged Gardens, see their website, www.raggedgardens.com.



Summer Pollinations

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Northwest NC Region: Louis Acker of Creston, NC, continued his great work as tree locator in this area. We pollinated trees in Avery County and at the Elk Knob State Natural Area in Watauga County. Thanks to Bob Franklin of Avery County and Larry Trivette, Superintendent at Elk Knob, for letting us use these trees! We rented a bucket truck from Haynes Electric Company of Asheville to pollinate an American chestnut tree on Spanish Oak Road in Avery County this year. Thanks to Eric Jedd and David Messer of Haynes for all their help in getting to this tree on time.



Andrew Slack pollinates an American chestnut tree at the Elk Knob State Natural Area in Watauga County.

West-Central NC Region: Last year's hurricane damage to Forest Service Road 97 on Haywood County's Lickstone Ridge prevented us from getting to those trees this year. Mark Rogers of Burnette Siding fertilizes and watches over that set of American chestnut trees on USDA Forest Service land. The success story was at NC State's Mountain Horticultural Crops Research and



Female chestnut flowers on a tree at the Fletcher Research Station are dipped into pollen sent to us by TACF's Meadowview Research Farms in Virginia.

Extension Station, where American chestnut seedlings planted in 2001 began to flower. We were able to pollinate four of those small trees this year.

Thanks to Brooke Haworth, Tom Ranney, Tom Eaker, and Superintendent Denny Thompson of the Fletcher Research Station for their help in growing these native North Carolina American chestnut seedlings.



Labeled bags cover female flowers before and after pollination allowing control of pollen parent and preventing contamination from other pollen sources.

Southwest NC Region: Jack Johnston and Joe James continued their great work in locating trees in the southwestern part of NC. This year we were able to pollinate a tree on Goat Bald, a western spur of Wayah Bald in western Macon County.



The views from Goat Bald are spectacular on a clear day!

Upper SC Region: Joe James and members of the Glassy Mountain community in upper South Carolina pollinated American chestnut trees in Pickens County. Joe also pollinated some B2F2 trees on his own farm in Seneca that have so far survived in a field infested with *Phytophthora* root rot. Joe, in cooperation with Dr. Steve Jeffers of Clemson University, is spearheading the chapter's efforts to breed an American chestnut tree that is resistant to both *Phytophthora* and the chestnut blight.

Joe and Steve are screening over 1400 chestnut seedlings for resistance to *Phytophthora* root rot. Seeds are planted in tubs and then the *Phytophthora* fungus is introduced on



Chapter member David Liberman observed pollination on the Goat Bald tree.

infested rice grains. Surviving chestnut seedlings will be planted on Joe's farm and subsequently screened for resistance to chestnut blight.

Paul Sisco, Ph.D., TACF Regional Science Coordinator



*One of six large tubs used by Joe James and Steve Jeffers to screen for *Phytophthora* root rot.*

FAQs

Q *How soon will blight-resistant American chestnut trees be available to the general public?*

A Here in the Carolinas, we're hoping to produce our first seed for testing and distribution by 2015. There will be very small quantities of seed at first, increasing in number as the parent trees get larger. TACF's main farm in Virginia is forecast to have its first seed for general distribution in 2012. All this depends on how fast the parent trees grow and how soon they produce seed.

Q *Will these trees look like the American chestnut trees did before the blight?*

A Our expectation is that they will, because they should have about 94% American genes. We've also been selecting each generation for American appearance. But we won't know for sure until they've been out in the woods for 20 years or more.

Q *Will these trees show any signs of blight damage?*

A Our goal is to get high levels of blight resistance, equal or almost equal to the resistance of Chinese chestnut trees. But even Chinese chestnut trees will show some signs of blight. No chestnut tree is immune to the blight disease, only resistant.

Q *Could blight-resistant American chestnut trees be damaged by other pests and diseases?*

A Yes, they could. Here in the South, Phytophthora root rot is a problem on poorly-drained soils or in swales. American chestnut trees need well-drained soil, and they grow better on slopes. Japanese beetles, deer, and the Oriental chestnut gall wasp can also cause damage to trees. Our Chapter has a goal of producing American chestnut trees with root-rot resistance as well as blight-resistance, but this could take some years of work.

Q *What are the good survival traits of American chestnut trees?*

A American chestnut trees have the ability to grow very quickly. Properly established, they can tolerate a variety of conditions, including drought. When they are cut they sprout again from the root collar. American chestnut trees are survivors. There

Q *How can I help to bring back the chestnut?*

A Your contributions to the national and Carolinas Chapter breeding programs keep us moving forward. And if you have some land that you can manage intensively, you might consider growing an orchard of 100 trees or so. At the end of five or six years, we will select the best two or three of these trees to carry on to the next generation. In addition to land and money, we need speakers for civic groups, and help in many other ways. Contact us at carolinas@acf.org.



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