



The Kentucky Railsplitter

Newsletter of the Kentucky Chapter
of the American Chestnut Foundation

Working to Restore the American Chestnut *Volume 6, Number 2 Fall 2007*

2007 Pollination and Breeding Update

Michael French-KY Chapter Vice President

Kentucky's Parent Trees

I've got some good news and some bad news—I'll begin with the bad. The weather this year has been especially hard on our chestnuts. We lost several trees to the late freeze and the drought, and may lose a couple more. On June 20, we learned that the main stems of our only known flowering chestnuts in Webster County (Jim Vincent's tree), Marion County (Omer Cooke's tree), and Madison County (the Berea College tree) had all perished. Later in June, the Askew's tree in Christian County was blown over by straight-line winds during a powerful storm. The Groce's chestnut in Clinton County and the Given's chestnut in Butler County are in poor health and may be lost. Fortunately, all of these trees are producing sprouts, and Kent Slusher may be able to give us another Madison County tree.

Kentucky's Pollinations

Now for some good news. This year's pollination efforts hold the potential for being Kentucky's best to date, although we can't be sure of our success until this October, when the nuts have been harvested and tucked away for the winter.

I coordinated the entire effort again this year by dividing our region into sections with regional coordinators, as was done last year. Kenny Pyles of the Kentucky Division of Forestry (KDF) led the team working on our south-central trees. He was joined by Ricky Parnell, Greg Parnell, and Seth Dykes, all KDF employees and they were assisted by volunteers Clem Pearson and Brenda Richardson. We again hired Ricky and Mac Brandon and with their bucket truck, the south-central crew took on the task of pre-bagging and pollinating Charles England's state champion tree in Adair County as well as the first Clinton County tree.

Scott Freidhof and Terry Stamper served as co-coordinators for the eastern part of the state. Victoria Greer and Gene Middleton assisted with the eastern region's pollinations, pollen collection, and pollen processing. They also assisted the south-central group at the Adair County tree for a couple of days.

Since we are working with the Graves line of resistance, we decided to re-pollinate the Pike County tree, because we

Blight-resistant American chestnut trees restored to Lincoln birthplace landscape

Hodgenville, KY - To honor the 200th anniversary of Abraham Lincoln's birth and to provide a living legacy of the bicentennial celebration, Abraham Lincoln Birthplace National Historic Site will plant several large American chestnut trees on site, November 2, 2007. This free event, open to the public, will begin about 10 a.m.

Families in rural America, including the Lincoln family, once depended heavily upon the American chestnut for food and shelter. These trees grew straight and tall and were rot-resistant, making the wood desirable for building everything from log cabin homes to split-rail fences. The small nuts were sweet and fed entire families as well as many species of wildlife.

Visitors to the Abraham Lincoln Birthplace National Historic Site have the opportunity to view four structures directly adjacent to the site built with American chestnut logs. The Nancy Lincoln Inn and four small cabins were constructed from large chestnut logs and red-heart pine. Built by James R Howell between 1928 and 1929, these buildings, open to the public, are still owned and managed by the Howell family.

This project is a joint venture made possible by donations from the Kentucky Association of Professional Surveyors and The American Chestnut Foundation. Participants are invited to a reception following the planting.

For additional information about this event call Sandy Brue, Abraham Lincoln Birthplace National Historic Site (270) 358-3137 or www.nps.gov/abli.

KY Chapter Website Updated

The Ky Chapter's website has been greatly expanded thanks to the efforts of KY Chapter Treasurer, Dr. Anne Myers. Past newsletters and board minutes can be viewed there as well as information on upcoming meetings and events. To view the new website log on to www.kychestnut.org. A big "thank you" to Anne for getting it up and running!

continued on pg. 2

The Kentucky Chapter of the American Chestnut Foundation

Board of Directors Officers

Scott Freidhof, *President*
Morehead, KY
(606)784-5697
scottf@mikrotec.com

Michael French, *Vice-President*
Lexington, KY
(270) 312-1161
mefren0@uky.edu

Dr. Anne Myers, *Treasurer*
Louisville, KY
(502) 634-1790
annemonique@bellsouth.net

Terry Stamper, *Secretary*
Olive Hill, KY
(606)923-6702
treedoctor0141@yahoo.com

Board Members

Bill Andrews, Frankfort, KY
Rollie Beers, Lexington, KY
Bob Cornett, Georgetown, KY
David Feldman, Lancaster, KY
Lynn Garrison, Frankfort, KY
Ray Hornback, Lexington, KY
Faye King, Stanton, KY
Rex Mann, Mt. Sterling, KY
Past President
William Martin, Lexington, KY
William P. Morton, Hazard, KY
John Perry, Berea, KY
Lou Shain, Lexington, KY

Newsletter

Marilyn Freidhof
marilynfn@mikrotec.com

Pollination and Breeding continued

initially created a line of Clapper resistance from it two years ago. Terry was helped with this pollination by yet another KDF employee, Dexter Conley, who has long had an interest in chestnut breeding, even going so far as to create some F1 crosses from a surviving American chestnut and a local Chinese chestnut years ago.

Rob Watts, Forest Manager of Eastern Kentucky University's Lilley Cornett Woods collected and processed pollens from both Letcher County trees so that we could make those crosses at Meadowview.

Pollinations in Virginia

Upon hearing reports of the success of last year's pollinations by the Kentucky chapter at TACF's research farms in Meadowview, Virginia, several other southern states were eager to try their hand at using their local trees as "father trees" rather than as traditional "mother trees".

This reversal of pollination direction allowed chapters to incorporate into the breeding program those chestnuts that wouldn't qualify as mother trees, such as trees that produced few female flowers, trees that were too sick to produce viable seeds, and mature chestnuts that had previously been inaccessible to bucket trucks and arborists.

By harvesting male flowers from those trees with an extension pruner or shotgun, we could then use the pollens to create our backcross lines by pollinating trees at Meadowview that were 7/8 or 15/16 American chestnut in character. This year we (hopefully) created lines that will be 15/16 and 31/32 American in character.

Fred Hebard gave the green light to the Alabama, Tennessee, Georgia, Kentucky, and Carolinas chapters to do some pollinations at the research farms and Paul Sisco did an excellent job of coordinating the southern chapters' logistics, so that we didn't hamper Fred and his crews (at least not too badly, I hope...someone, and hopefully Clint Neel will notice that I'm not mentioning any names,

accidentally mixed gasoline with the hydraulic fluid in one of Fred's bucket trucks when it ran out of gas!). Fred was understanding however, and he and his lovely wife, Dale, were most gracious, treating many of the workers to some excellent home-cooked dinners.

Paul also figured that this was a great opportunity to work as a team to achieve our goals and an excellent opportunity to meet and work with some of the members from other chapters. He was right, and we accomplished a great deal. The cooperative effort was especially helpful to our chapter, as I was the only member from Kentucky who could devote weeks at a time to the effort, so the relative surplus of labor from other chapters was a great relief. Les Tate, David Morris, Clint Neel, Jack Torkelson, Joe Shibig, and Brenda and Don Richardson helped to complete our pollinations.

The Kentucky chapter pollinated a total of 11 backcross trees at Meadowview using 5 lines that we hope to complete this year, and beginning 6 entirely new lines. One of which is a promising 10 inch diameter tree owned by Charles Wilson in the Western Knobs region of Kentucky in Hart County. He and I blasted the canopy of his tree with about a dozen or so 12 gauge rounds until we finally got enough male flowers to satisfy my demand. I applied the Hart County pollen to a beautiful B3 or 15/16 backcross tree, so the offspring will be approximately 31/32 in character.

Editor's Note: Mike French is harvesting chestnuts from this summer's pollinations as this newsletter is going to print. Look for the harvest results in the next issue of the Railsplitter. .



KY Chapter Vice President Mike French Pollinating American chestnut flowers.

The President's Corner **American Chestnuts On Pine Mountain**

Where can you go in Kentucky to see more American chestnut trees in one day than you will probably see in the next ten years? The answer is Pine Mountain along the southeast border of the state. Pine Mountain traverses 125 miles through portions of Pike, Letcher, Harlan, and Bell counties. There are many public land holdings along the mountain corridor including state parks, state forests, state nature preserves, and state wildlife management areas. The Pine Mountain Hiking Trail is also under construction and will eventually snake along 100 miles of the mountain.

In early October, I visited the Hensley-Pine Mountain Wildlife Management Area in Letcher County and the adjacent Kingdom Come State Park in Harlan County. The two areas are separated by a small strip of private land. A 14-mile section of the Little Shepherd Trail (Route 1679) was paved about a year ago and allows vehicles other than 4-wheel drive trucks to access the top of the mountain between Whitesburg and Cumberland. A significant number of people were taking advantage of the new access to look for bears. Glimpsing a bear is always exciting, but of course I was amazed by the incredible number of American chestnut trees on the mountain.

In many places along the Little Shepherd Trail, seedling and sapling American chestnut trees dominate the forest understory. There are significant canopy gaps on the uphill side of the Trail due to pine mortality caused by a severe infestation of southern pine beetles in 2000. The extra sunlight has allowed some of the chestnuts to gain height and join other deciduous trees in the race for the canopy. Some of these saplings should be blooming in the next few years.

A chapter member from the Louisville area recently discovered a flowering tree at the Blanton Forest State Nature Preserve in Harlan County while hiking. The tree produced numerous burs this summer. I hope to relocate that tree and use it in the breeding program in 2008. I would like to challenge chapter members who reside in the Pine Mountain counties to be on the lookout for flowering chestnut trees that could serve as mother trees for pollination next summer. I know there are some big survivors lurking in those mountains, just waiting to be discovered by you.

Scott Freidhof
Kentucky Chapter President



Chestnut Restoration and the Kingdom Come School

Bob Cornett

Some sad news: the beloved Principal on the Kingdom Come school, Betty Caudill, died after a two-year fight with cancer. With Betty gone, the school was even more vulnerable to being consolidated out of existence. This school, which started as one of the many church-related "settlement schools" in eastern Kentucky, has long since been a public elementary school; like many mountain schools, the enrollment has been going down as the population has declined — Kingdom Come had fewer than 100 students, K-8.

The Kingdom Come school is now closed, effective at the end of the 2006-2007 school year. The Letcher County school board is receiving sealed bids on the building and 5 acres of land. The community tried, but did not succeed, in putting together a proposal to buy the building for use as a community learning center.

Now, some good news: the Chestnut restoration work in Letcher County, including the Chestnut Festival, will go on. Much of the leadership is coming from the volunteer fire department at Gordon on Linefork, which has been actively involved in the Chestnut project from the start: the firemen have taken Kingdom Come students to conduct videotaped interviews with elderly people who remember the Chestnut tree, and the fire department has been a partner with the school in putting on the Chestnut Festival.

This year's Chestnut Festival is to be held on Saturday, October 20, at the Gordon fire station which is located at the intersection of highways 160 and 463. This date was chosen because the Kingdom Come Settlement School homecoming is scheduled for that weekend — there is to be a homecoming meal at the fire station on Friday evening. Looking ahead, the firemen believe that the Chestnut Festival and the Homecoming weekend will partially merge, thereby reinforcing each other.

The general format of the Chestnut Festival will follow the pattern of previous years, with the morning devoted to demonstrations related to the Chestnut restoration and the afternoon consisting of entertainment, with lots of bluegrass music.

I'm betting on Linefork: this community, by building upon the work it has already done, will become Kentucky's showpiece for what can be done when Chestnut restoration is linked with a community's old folks and its children. This is a project that our Kentucky Chapter can justifiably be proud of — it could not have happened without us.

Secretary of the Interior Plants Chestnuts at Office of Surface Mining Reclamation and Enforcement Headquarters in Washington D.C.

Michael French

On July 26, The American Chestnut Foundation's blight-resistant backcrosses were the focus of a tree planting ceremony to highlight the 30th Anniversary of the Surface Mining Control and Reclamation Act (SMCRA). The Secretary of the Interior Dirk Kempthorne was joined by Marshal Case—President and CEO of The American Chestnut Foundation, Stephen Allred—Interior's Assistant for Land and Minerals Management, and Brent Wahlquist—The Appalachian Region Director for the Office of Surface Mining Reclamation and Enforcement. Also present was Patrick Angel, a huge supporter of TACF's efforts and Appalachian Regional Reforestation Initiative (ARRI) forester. Dr. Hill Craddock from the University of Tennessee-Chattanooga supplied the B2F3 seedlings for the planting.

The focus of the event was ARRI's efforts to reclaim surface mines with forestry as the Post Mining Land Use, and surface mines hold much potential for chestnut restoration. ARRI is a group composed of citizens, landowners, academics, representatives from the coal industry, and representatives from several state and federal agencies who are working towards the reforestation of mined lands using proper reclamation techniques, known as the Forestry Reclamation Approach (FRA). For nearly thirty years, the focus of reclamation under SMCRA has been towards land stabilization, which led to excessive compaction of the planting medium and resulted in poor tree growth. This led many operators to abandon reforestation as a reclamation technique, favoring pasture land as a means to secure a speedy bond release. The FRA includes 5 key steps to ensure that the land will foster good tree growth and survival. These 5 steps are:

1. Create a rooting medium at least four feet deep that is composed of topsoil, weathered sandstone, and/or the best available material.
2. Loosely grade the medium established in step 1 to create a non-compacted medium.
3. Use non-competitive ground covers that are compatible with seedling growth.
4. Plant two types of trees: 1) early-succession species for wildlife benefits and soil stability, and 2) commercially valuable crop trees
5. Hire a professional tree planter who uses proper tree planting techniques

Throughout the hills of Appalachia today, a common Post Mining Land Use (PMLU) is for pasture land, even though many of the lands with this PMLU will never be used for pasture or hay production. ARRI is advocating the return of many of these lands to productive hardwood forests—as they were before they were mined.

The return of these lands to forest has numerous economic and ecological benefits. High value crop trees provide opportunities for expanding our timber industry and providing employment through logging and the production of wood products, as well as recreational opportunities and the secondary benefits from hunting, camping, and other outdoor activities. Our native wildlife benefits from the habitat and food sources provided by hardwoods, and from the decrease of forest fragmentation. Many species require large, unbroken tracts of forest to successfully reproduce, especially Neotropical songbirds. The fragmentation of the landscape that results from reclaiming mines for pasture land can increase nest parasitism, resulting in low reproductive success, and turning small tracts of forest into population sinks. Large, unbroken tracts of forest can also hinder the establishment and reproductive success of many invasive exotic plants and animals.

The loosely graded planting medium allows rainwater to infiltrate the soil, reducing erosion and surface runoff, decreasing sedimentation of streams and allowing for slower discharge into streams, reducing the intensity of flooding. Trees also sequester atmospheric carbon, both above and below ground. Wood harvested from mined lands can be

Continued on Pg. 5



From left to right, Secretary Kempthorne, Marshal T. Case, president of the American Chestnut Society; Kraig Naasz, President and CEO of the National Mining Association and Brent Wahlquist, Appalachian Region Director for Interior's Office of Surface Mining Reclamation and Enforcement, at a July 26, 2007 ceremony marking the 30th anniversary of the Surface Mining Control and Reclamation Act, planted a blight-resistant American chestnut tree outside the headquarters of the Office of Surface Mining Reclamation and Enforcement in the nation's capital.

Mother Tree Profiles

Scott Freidhof

As most of you are aware, “mother” trees are flowering American chestnut trees that have been discovered in KY and are being used in the hybrid breeding program. Pollen is delivered and applied to the female flowers of KY mother trees. Some trees, specifically trees with canopies that are impossible to reach, serve as “father” trees. That is, pollen from a father tree is delivered to a mother tree at the Virginia research farm. Male flowers are collected with a shotgun. Ever been curious about the status and stats of Kentucky’s mother trees? In each newsletter, we will begin sharing basic statistics about mother trees used in the breeding program thus far. Below are statistics for three mother/father trees in eastern Kentucky. For clarification, a “line” is 100 hybrid nuts.

- (1) Lee County 1 (Mother tree and Father tree)
 - Nearest Town – Zachariah (about 8 miles south of Natural Bridge S. P.)
 - Tree Diameter – 6 inches
 - Tree Height – 40 feet
 - Health – Excellent
 - Year Pollinated – 2007
 - Line Produced – Not Yet
- (2) Letcher County 1 (Mother tree and Father tree)
 - Nearest Town – Line Fork
 - Tree Diameter – 11 inches
 - Tree Height – 40 feet
 - Health – Poor
 - Year Pollinated – 2003, 04, 05, 06, 07
 - Line Produced – Yes
- (3) Letcher County 2 (Father tree only)
 - Nearest Town – Delphia (near Perry County line)
 - Tree Diameter – 9 inches
 - Tree Height – 60 feet
 - Health – Fair
 - Year Pollinated – 2006, 07
 - Line Produced – Yes



Scott Freidhof and Rod Wells setting up the tower to reach the chestnuts on the Lee Co. tree. The base of this tree was packed with mud and wrapped with plastic to kill blight found on the trunk. Victoria Greer photo

Secretary of the Interior continued

turned into lasting products, such as buildings and furniture, representing a potential carbon sink. This has obvious implications for mitigating global warming.

As TACF’s blight resistant backcross trees become widely available in the near future, they could become incorporated into the array of hardwoods planted on surface mines. Founder populations of chestnuts established on surface mines could serve as a source for natural dispersal into surrounding forests by blue jays, squirrels, and other seed dispersers. Freshly dumped mine spoils are initially free from vegetative competition, which can be problematic for seedling establishment in forest settings, and newly dumped spoils may also be devoid of root pathogens such as Phytophthora, which have devastated TACF’s breeding orchards in central Kentucky and elsewhere. Research plots aimed at testing chestnut growth and survival have been established in Pike County, Kentucky and elsewhere, are showing moderate to high survival and good growth rates. The reclamation of these drastically disturbed areas is viewed by many as a win-win situation for both chestnut restoration, and for surface mine reforestation efforts.



Rod Wells harvesting chestnuts from the Lee County tree with a pruning pole. Note the white bag in lower left corner. This tree was reported by the landowner last fall and first pollinated this July.. Unfortunately, the flowers did not produce viable nuts, most likely due to severe drought conditions this summer.

Victoria Greer photo

Membership Sharing

We are looking for individual chestnut stories, memories, or photographs that members would like to share. If you have a something that you would like to share please contact Scott Freidhof at scottf@mikrotec.com or by mail 4455 CCC Trl., Morehead, KY 40351

Fort Boonesboro State Park Celebrates National Public Lands Day With American Chestnut Planting

Recently a variety of organizations have included plantings of American Chestnut trees to mark anniversaries and other important celebrations. On September 29th Fort Boonesboro State Park celebrated National Public Lands Day by planting Chestnuts on park lands. Volunteers from Toyota teamed up with others to plant a variety of trees and removed invasive plants at the park. Among the trees planted were three American Chestnut hybrid trees (15/16ths) supplied by the UK and TACF. Kentucky Chapter board member, Terry Stamper, and another chapter member were on hand to plant the trees.

Planting of American Chestnuts fits in with the living history of Fort Boonesboro as chestnuts were important in the early settlement of Kentucky. Not only did they provide food for wild game, but the chestnut wood was ideal for cabin and fence building as it did not rot quickly and had a straight grain that was easy to work with.



KET Features Adair County Mother Tree

The KET program, Kentucky Life, featured the pollination of the Adair County chestnut tree as part of its program this summer (program #1318). In this episode, host Dave Shuffett rides a bucket truck to watch members of the Kentucky Chapter of the American Chestnut Foundation pollinate the tree.



Kentucky
Chapter
of the
American
Chestnut
Foundation



KY Chapter The American Chestnut Foundation
4455 CCC Trail
Morehead, KY 40351