

the New Leaf

the Newsletter of the Connecticut Chapter
of the American Chestnut Foundation
Autumn 2005

The mission of the Connecticut Chapter is to promote the preservation and restoration of the American chestnut species in the State of Connecticut through the development and propagation of chestnut trees which are resistant to the chestnut blight.

CT-TACF Begins Backcross Breeding Program in Enfield and Woodbridge

On June 11, CT-TACF met at White Memorial Foundation in Litchfield. Dr. Philip Arnold, Dr. Robert Gregg and Town Selectman Joe Callistro, active also in the Woodbridge Land Trust, shared their plans to work with Dr. Charlotte Zampini of MA-TACF to pollinate two 8-9 inch DBH, 40 foot tall trees in Woodbridge. Last summer I found two flowering chestnuts plus a larger "third tree" (healthier but not in bloom) in Enfield, and presented a poster picturing them. During the break, TACF President and CEO Marshal Case asked me which Enfield tree might have potential for pollination. I replied the nine inch DBH "third tree" might bloom well this year, but the other two were now in poor condition.

Fortunately, the owners of this Enfield tree, Paul and Cheryle Pavlakis, were willing to help, graciously allowing me access for photos and notes. It became apparent their tree would put on quite a show of catkins, but from

the ground I couldn't see if many female flowers were forming. After reading pages from TACF national and state chapter websites describing pollination procedures, I reached out to the TACF network for guidance. I wanted to learn as much as possible about the procedures and time them correctly. MA-TACF members Charlotte Zampini, Yvonne Federowicz, Kathy Desjarden and Rufin Van Bossuyt offered practical tips about supplies and methods. Dr. Fred Hebard reviewed my telephoto pictures of the flowers and gave detailed answers to questions. Blair Carbaugh of PA-TACF and TACF Tree Breeding Coordinator Sara Fitzsimmons shared advice. Daphne and Marshal at Vermont headquarters sent encouragement plus some leftover Shaftsbury pollination bags! Jim Gage, also a member of the Northern Connecticut Land Trust, volunteered to help on site. Pre-bagging was performed on the Enfield tree on a showery June 28 (yes, plenty of females up there); in late June in Woodbridge, eighty-seven year old Dr. Bob Gregg went up in the bucket with arborist Ken Fries and bagged the flowers on the Callistro tree. On July 8 both Woodbridge and Enfield trees were pollinated despite threats of heavy rain from remnants of Tropical Storm Cindy.

Dave Goodson and Robert Allen of Connecticut Light and Power (CL&P)/Northeast Utilities provided the key to getting the Enfield pollination effort "off the ground" by

scheduling the Davey Tree Experts bucket truck crew of Al Vancour, Bill Murray and Les Richardson. Thank you Northeast Utilities for donating both pre-bag and pollination trucks! CT-TACF also thanks Ken Fries, who arranged for the bucket truck to access the Gregg and Callistro trees.

We greatly appreciate the dedication of Dr. Charlotte Zampini, who drove in from eastern MA for the 7:30 a.m. Enfield pollination, then went directly to Woodbridge to work on their trees. Thirty-five bags were pollinated on the Enfield tree, plus sixty bags total on the two Woodbridge trees, a possible harvest of 150 - 175 fertile nuts. The resulting CT generation will be third backcrosses. Our chapter awaits the nut harvest and the first seedlings combining Connecticut and TACF blight-resistant chestnut genes. We appreciate the contributions of each individual who made this possible.

By Gayle Kida
CT-TACF Board Member



Gayle Kida of CT-TACF, at left, and Dr. Charlotte Zampini of MA-TACF discuss pollen containers before the Enfield chestnut pollination.
(Photo courtesy of Jim Gage)

Annual Membership Meeting
Please join us at the annual meeting of the CT-TACF! This year the meeting is being held at Yale University in New Haven!
Read more inside, and then let us know you are coming!

Date: Saturday Nov. 12th
Location: Sage Hall
205 Prospect Street
New Haven, CT

Plantation Tour with Sara Fitzsimmons

White Memorial (WM) has been the focus of Chestnut Hybrid since Arthur Graves established a planting there in 1944. That original plantation was extended by Hans Nienstadt in 1953. This site was a source of F1 pollen from the early 1990s for the ACF, from which great grandchildren (B3s) are now in Meadowview. There are also other more recent plantings at WM reinforcing the continuity between the WM Conservation Center and Chestnut restoration efforts.

It seems natural White Memorial would be considered as a location for cultivating local backcross material, performing open intercross and selection. Sara Fitzsimmons, the ACF Tree Breeding Coordinator (located at Penn State Univ.), suggested she could visit the site in person, and provide technical assistance in the form of a formal site evaluation. With Sara visiting Connecticut, and with extra time, her services were offered to members who'd expressed an interest in plantations. The schedule quickly filled with planned visits to Woodbridge and Salem, in addition to WM.

First Stop of the day - White Memorial

We converged at the Sawmill Field site (just south of the observatory) at 9:30am. This open field site contains the 1995 and 1997 plantings and has room for considerable expansion. Site conditions indicated some deer browse and rodent damage. Sara pointed out that the presence of "sensitive fern" - *Onoclea sensibilis*



from left: Sara Fitzsimmons, Jim Gage, Dr. Philip Arnold, Dr. Robert Gregg
(Photo courtesy of Bill Adamsen)

in the lower fields or eastern section indicated poorly drained soils - hardly optimum for Chestnut cultivation. These issues would need to be mitigated before committing to planting the expected production of Enfield nuts in this area.

The WM Executive Director, Keith Cudworth joined us and discussed options for expanded plantings. Keith indicated that expansion of the operation was very much in-line with White Memorial's goals. He saw "no reason" a proposal for expanded plantings, including even the possibility of deer protection would be rejected by the WM Board of Directors. Keith and Sara "paced out" where an enclosure could go, capturing corner coordinates on GPS. We would probably concentrate our efforts towards the higher land in the west where the older planting was first located and to the north towards the bluebird houses. The final mapped out area, while smaller than we had hoped, could provide for a planting of 3-4 Chestnut lines depending on other local conditions.

While at WM, we visited the 60 year old chestnut site near the in-

tersection of Route 63 & Rt 61, 1.4 miles southeast of the Sawmill Field planting. This is the site Graves and Nienstadt planted in the middle of the last century. While overgrown, it's a fascinating collection of hybrid trees showing a wide range of morphology and resistance. There was significant production of nuts even considering the area's severe drought and neglect.

Next Stop - Woodbridge

We arrived at the home of Dr. Philip Arnold at 12:35. Philip and Robert discussed their current 2 mother trees - and plans for developing their plantation. Philip and Robert provided a tour of the property leased by the Woodbridge Land Trust from the Town of Woodbridge. The entire site is approximately 132 acres with the Land Trust property a 3 acre lot 350 feet by 350 planned for American chestnut hybrid planting. The property has true multi-use including community gardens, walking trails and farm leases. Philip has a long history with the specific plot - he and his brother having worked it as a farm in their youth.

The Woodbridge Land Trust has gone to incredible lengths to acquire and prepare the site for the Chestnut Plantation. Robert and Philip spoke at length about some of their diverse experiences, which included everything from negotiating with the town for the lease, to removing rocks and boulders and remediation of drainage issues. Woodbridge experiences sig-

continued on following page ...



from left: Rod Longley, Charles Dobos, Sara Fitzsimmons, Lukas Hydar, Keith Cudworth, Gayle Kida, Paul Wagner (Photo courtesy of Bill Adamsen)

Plantation Tour ...
... continued from previous page

nificant deer pressure, and talk moved to experiences with spot control and fencing. Sara discussed many farming approaches, including: irrigation, nut harvesting/storing, fencing, mulching.

Woodbridge has two large American Chestnuts they pollinated this past summer. They've benefited significantly from association with the Massachusetts ACF Chapter. Charlotte Zampini of the MA Chapter pollinated their flowers (as she did those on the Enfield trees) with a local observer. Robert discussed their attempts at getting grants - and described the pitfalls and benefits. We saw photos of Robert 50 feet up in a bucket truck bagging flowers to protect them from unwanted pollination. This would be an impressive feat for anyone, but especially at 87 years of age! Woodbridge is clearly a model of success for all of CT!

Before leaving Woodbridge, Philip gave us a tour of two fruit laden Chinese Chestnuts - an obvious parent sibling pair - located in his yard. (note: as a result of this visit, Philip is in discussion with Dr. John Carlson of Penn State. John needed fruit from a Chinese Chestnut and its progeny - and Philip's trees were the perfect match).

Jim Gage representing the Northern CT Land Trust had joined the group, and he expressed awe at the organization, commitment, ambition, confidence and industriousness of the



from left; (goat), Robert Schacht, Linda Schroeder, Dr. Linda Bireley, Sara Fitzsimmons, Dr. David Bingham (Photo courtesy of Bill Adamsen)

Membership Application

Enclosed is an additional contribution of \$ _____ for the Connecticut Chapter's activities. This is a gift membership from: _____

Name: _____

Address: _____

City, State, Zip: _____

Telephone: _____

E-mail address: _____

- Gold Leaf \$1,000 Silver Leaf \$500 Bronze Leaf \$250
 Green Leaf \$100 Regular \$40 Student \$15

Membership includes subscriptions to *The Bark* and *The Journal of the American Chestnut Foundation* and enrollment in the *Connecticut Chapter*. Please make checks payable to: The American Chestnut Foundation, P.O. Box 4044, Bennington, VT 05201-4044

TACF is a 501(c)(3) non-profit organization. Except for the member services part of your contribution (valued at \$15), your gift is tax deductible to the full extent allowed by law.

Woodbridge group. An active member since the mid 1990s, Jim recently assisted Gayle Kida with the pre-bagging and then pollination of the Enfield Trees, and is working with the Northern CT Land Trust, establishing a plantation on the 56 acre Swan Farm Property in Ellington.

Last Stop - Salem

We met at the property of Dr. David Bingham in Salem at 3:40pm.

David provided a tour of the site he proposed for planting. He discussed the other management objectives for the area which include habitat for rodents (owl food) and in general, an herbicide free approach to management. We were fortunate to have Robert Schacht present, a commercial organic gardener and conservationist.

Robert described using corn gluten for effective spot weed control, a strong possibility for the plantings. We also discussed plastic net fencing and approaches to mulch. We discussed the advantages and disadvantages of using B3F3 seeds directly for planting versus intercrossing from the progeny of a local hybrid backcross.

David showed us an American Chestnut he has been successfully keeping alive with mud packs. Though accessibility is poor, the tree could be successfully pollinated. Due to drought conditions, its flowers did not develop into fruit this year, but with luck, next year it presents a likely pollination opportunity.

By Bill Adamsen
CT-TACF Board Member

Report On Nominations Committee

Committee Members attending: Rod Longley, Marshal Case, Bill Adamsen, Pat van de Kamp, Paul Wagner (absent).

The Nominations Committee met Saturday, September 17th and made recommendations for Directors, Officers, and the composition of the 2006 Nominating Committee.

These nominations will be voted on at the Annual Meeting or by Absentee Ballot (available at www.ctacf.org).

The Committee's full report is available in the minutes posted to the CTACF website.

Election of Directors

Standing for re-election are Rod Longley and Garret Smith. Both are just completing a term on the Board of Directors. In addition to those standing for re-election, we have four new members joining the Board. Dr. Philip Arnold, Dr. David Bingham, Dr. Robert Gregg and Mr. Jim Gage are standing for election for two year terms. Their profiles are below.

Recommendations for Officer

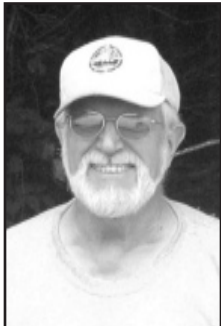
Officers recommended by the Nominating Committee are President: Bill Adamsen, Vice President: Philip Arnold, Treasurer: Jim Gage, Secretary: Pat van de Kamp.

Selection of Nominating Committee for 2006

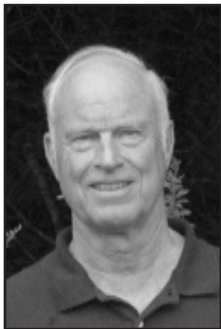
The new Nominating Committee has been named as Marshal Case, Bill Adamsen, Philip Arnold, Rod Longley and Pat van de Kamp.



Dr. David Bingham is a retired physician from Norwich who specialized in OBGYN. His grandfather, Hiram Bingham, was Governor, US Senator, and as "discoverer" of Machu Pichu is reputed to have served as Steven Spielberg's model for "Indiana Jones." David ran for election to Congress in 1994 focusing on both fiscal and social responsibility to assure a sound environment. He has been active with the Sierra Club, NARAL, Audubon Society, the national League of Conservation Voters and the Salem Planning and Zoning commission, where he is working to develop the town's Conservation and Development Plan. His most recent emphasis has been with The Nature Conservancy and the Salem Land Trust to ensure land preservation. David is a member of long standing in TACF (15 years+) and is working to develop a plantation of American Chestnut on his property in Salem.



Dr. Philip Arnold was a Board Certified Physician for 38 years specializing in Physical Medicine and Rehabilitation, retired in 2004. He received a BA from Yale University and M.D. from Tufts. Philip is active as a Director of the Woodbridge Land Trust and as a member of the American Chestnut Foundation. He feels a synergy between the goals of the organizations and is committed to the goals of restoration of a resistant American Chestnut. The Woodbridge Land Trust has planned their 2006 orchard including securing long term lease on land from the Town of Woodbridge. They have mother trees bagged and pollinated and hope to have some seed nuts this fall. Dr. Arnold has agreed to serve as Vice-President of the CT-TACF.



Mr. Jim Gage has been a Director (for 8 years) and the Treasurer of the Northern Connecticut Land Trust (for 6 years) and was a preserve monitor for The Nature Conservancy (Poquetanuck Cove) for approximately 8 years. A member of long-standing in the American Chestnut Foundation (9 years), Jim brings the strength of his partnership with one of the most active Land Trusts in the State. He also served on the Ellington Conservation Commission for 3 years, and was Director and Treasurer of the Scantic River Watershed Association for 3 years. Jim retired from Pratt & Whitney Division of United Technologies in 1993. Jim Gage has agreed to serve as Treasurer of the CT-TACF for 2006.



Dr. Robert Gregg is a Director of the Woodbridge Land Trust and was instrumental in the acquisition of land for the Trust's chestnut plantation. He has been a member of the CT Chapter of the American Chestnut Foundation since 2001. Born in Dundee, Michigan, he received his MS and PhD in Chemistry from the University of Michigan. He joined what was to become Uniroyal, where he worked in various research and production capacities until his retirement in 1984. Throughout his career Dr. Gregg has been named as inventor on several patents, and authored or co-authored a number of scientific papers. He was a pioneer in establishing the mechanism of free radical polymerization now used to make billions of pounds a year of polymers. He was the inventor of the first commercial spandex and devised the rubber to wire adhesion system for steel-belted radial tires that keeps the rubber on the tire and off the road.

Dr. Chadwick Oliver

Pinchot Professor of Forestry and Environmental Studies and Director, Yale Global Institute of Sustainable Forestry. Chad, is a renowned expert in the fields of forest stand dynamics and landscape management and sustainable forestry. He is an internationally known silviculturalist, noted for his understanding of both the dynamics of forest processes and the interactions of human societies and forests.

Topic: The American Chestnut and Sustainable Forestry in the 21st Century.

What is the outlook for sustainable forestry over the next 50 years and how does the American Chestnut fit into that picture?

Ms. Sara Fitzsimmons

Sara has an MEM in Forest Ecology and Soil Resource from Duke. She is employed by TACF and PA-TACF working as a data and orchard manager for the PA Chapter, as well as toward the goal of establishing on-line resources for all TACF Chapters

Topic: Chestnut Cultivation

Depending on the type of land and growing conditions, how many trees one wants to plant, and whether one wants to plant American chestnuts or hybrid chestnuts, one can be faced with a myriad of decisions on how best to plant and grow those trees. In this workshop, we'll cover the ups and downs of planting by both seed and seedling, how to protect both stem and seed from various predators, dabble in information on how to protect from the most common pests, and go over the various contacts that one should make when dedicating an area to the planting and growing of chestnut trees. We'll also cover how to select the most proper places for planting chestnut trees and the considerations one must take into account in selecting the site for an orchard. Bring lots of questions for after the workshop.

Dr. Fred Hebard

Dr. Fred Hebard has headed up TACF's research farms in Meadowview, VA since the farm was established in 1989. Beginning as Superintendent of our Wagner Research Farm, and later becoming Staff Pathologist, Fred guides TACF's research.

Topic: TACF Breeding Program

Dr. Hebard started his breeding work with two trees named 'Graves' and 'Clapper' that were of the Backcross1 (BC1) generation [(Chinese x American) x American]. Both these trees had shown good growth characteristics and a moderate level of blight-resistance. Through hard work, Dr. Hebard was able to turn around a generation of trees in only 6 years, so the breeding work has proceeded much faster than the founders of the organization anticipated. Dr. Hebard has now completed the BC3 generation, which is on average 94% American, and has intercrossed members of that generation to produce a tree that is highly resistant to the blight. The highly-resistant, 94% American chestnut trees have been planted in a seed orchard to produce nuts for testing and reforestation. It is anticipated that the first test plots will be planted by 2008, and seed may be available for wider distribution by 2012.

Dr. Charlotte Zampini

Is an Assistant Professor of Biology at Framingham State University and is President of the Massachusetts Chapter of the American Chestnut Foundation. Dr. Zampini teaches Plant Taxonomy, Plant Physiology, and Recombinant DNA Technology. She is a plant population biologist using molecular techniques to investigate the genetic diversity found in surviving stump sprouts of the American Chestnut.

Topic: Why is diversity important?

There has been a lot of talk about the day we start planting hybrid, blight resistant chestnuts out in the forests of New England and North America. What are the implications of releasing a hybrid species? Is there an impact on the purity of an indigenous species? How has the TACF program been designed to maximize diversity, and why is diversity important?

Program for the Annual Meeting

One look at the agenda and you KNOW this is going to be a great learning experience and time well spent. The meeting will be held at Yale University in New Haven, co-sponsored by the Global Institute of Sustainable Forestry, the Society of American Foresters, and the CT Chapter of the American Chestnut Foundation.

We've assembled speakers with topics relevant to today's chestnut grower, conservationist and forester. We hope you'll attend.

Attendance RSVP

If you plan on attending, please RSVP with an e-mail to rsvp@ctacf.org or call 203.866.2244 and leave a message!

Proposed Program Schedule

| | |
|---------|-----------------------|
| 9:30am | Opening Reception |
| 10:00am | Marshal Case |
| 10:10am | Dr. Chadwick Oliver |
| 10:20am | Dr. Fred Hebard |
| 11:00am | Break |
| 11:10am | Dr. Charlotte Zampini |
| 11:50am | Sara Fitzsimmons |
| 12:30pm | Break |
| 12:40pm | CT-TACF Business |
| 12:40pm | Sara Fitzsimmons |
| 1:10pm | Lunch |
| 2:15pm | CT-TACF Dir. Mtg. |
| 2:15pm | CAES Tour |

(see website for updates)

Driving Directions

The meeting is at Sage Hall, 205 Prospect Street, New Haven.

- From I-91 North or South
- Take exit #3/Trumbull Street onto Trumbull Street - go 0.9 mi
- Turn Right on Prospect Street - go 0.2 mi
- Arrive at 205 Prospect Street, New Haven, on the Right

Parking

There is on-street parking near Sage Hall, and the Yale Parking Lots are available for Parking on weekends without charge. The Yale Skating Rink (the Yale Whale) is located on Prospect Street, directly opposite Sage Hall, with significant parking.



**You're never too young
or too old
to help save the
American chestnut!**

**Connecticut Chapter of the
American Chestnut Foundation
5 Dock Road
Norwalk, CT 06854**



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If you're not already a member, JOIN US with the enclosed membership form.

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*Dr. Sandy Anagnostakis of CAES, at left,
and Bill Adamsen of CT-TACF
(Photo courtesy of Rich Chicarella)*

hypovirulence to enhance resistance.
While canker covered, the trees are very
much alive, flowering, and fruiting. Dr.
Sandy has pure American chestnut and
has offered their use to the CT Chapter for
pollination, a generous offer, providing an
efficient approach to adding diversity.

This was a tour everyone can enjoy.
Please join us on the next tour follow-
ing the Annual Meeting to be led by Dr.
Anagnostakis' assistant Pam Sletten.

Tour of the CAES Lockwood Farm in Hamden

I had the opportunity to visit Dr. Sandy
Anagnostakis on a tour of the CT Agri-
culture Experiment Station (CAES) in
Hamden. With their new half mile long
deer fence, CAES cutting edge research,
and thousands of chestnuts heavy with
nuts, I had plenty of excuses for the visit.
But what I really wanted to see was the
latest orchard work, and meet Dr. Sandy
in person.

Dr. Sandy is not just a scientist, but a
chestnut historian. Her talk moved from
current work in the genetics of chestnut
to Thomas Jefferson's nacent work in
the grafting of European chestnut onto
American stock to resistance through
hypovirulence. Dr. Sandy pointed out that
the longest-continuing chestnut breeding
program in the United States is that in CT.
Dr. Arthur H. Graves of CAES planted
trees on land he owned in Hamden, and
started making crosses in 1930. Two of
Dr. Graves students, Hans Nienstaedt and
Richard Jaynes continued that research,
providing a continuum to Dr. Sandy today.

Dr. Sandy has pioneered the use of