

American Chestnut Cooperators' Foundation

2003 Newsletter

Dear Friends and Cooperating Growers:

NEW SEEDLING PRICE

We are late figuring the seedling cost this year because we lost money on last year's distribution. Also, we have learned that most seedlings sent outside West Virginia are in the mails for as long as 2 weeks, even those going across the river to Ohio. **Seedlings now cost \$40 per bundle of 50**; for bundles of 25 or fewer, the cost is \$23.

We highly recommend that all growers who do not plan to pick up their seedlings (see below, Open House) and do not live in West Virginia consider requesting Priority mailing. **Priority costs an additional \$10 per bundle**. When you write your check payable to ACCF, please remember to add your contribution for 2003 (\$20) to the research that supports these distributions.

The nursery has designated only 4,500 seedlings for ACCF growers this year, so it is best to send your orders in early.

OPEN HOUSE

- 1. The West Virginia Forest Tree Nursery** where they harvest the nuts and then grow the American chestnut seedlings which we have been distributing since 1989, will hold an open house for ACCF growers on **Saturday, December 6**, from 10 to 12 a.m.

The nursery is located about 10 miles north of Point Pleasant, WV, in Lakin, near the Ohio River, on Route 62.

Please note in your order, if you plan to pick up your seedlings at that time. We can send you a list of motels within a 10-mile radius of the nursery upon request.

Come and meet Dave McCurdy, John Elkins, and (weather permitting) Ed Greenwell, ask questions and discuss your growing problems and solutions.

- 2. The Airport Research Plot near Virginia Tech** in Blacksburg is the place where we hold spring grafting lessons; there we are making another demonstration of integrated management for chestnut blight control. We also have about 2 dozen tiny volunteer chestnut seedlings which may be dug up and taken home. Lucille can meet you at 10 a.m. on **November 8**. Please request directions to avoid being late to this open house. Security requires locking the gate after entering.

PHYTOPHTHORA

The first symptom of a *Phytophthora* infection is premature yellowing leaves, followed by browning leaves and then death of the stem. When the seedling is dug up, a brownish-black decay is evident on the fine roots and the structural roots. Unlike chestnut blight, *Phytophthora* offers no second chance because it kills the roots as well as the top.

The ultimate defense is to plant in sandy, well-drained soils, avoid low-lying and flat land (unless the soil is sandy), and also, avoid old fields in the Piedmont. In cases where the soils are ordinarily well-drained but are heavy in texture, unusually wet conditions can slow the drainage to create a *Phytophthora* problem.

If the disease is diagnosed in its early stages, it can be controlled with a fungicide drench (Ridomil or Subdue) applied following the manufacturer's directions. This is an expensive and labor-intensive solution which we recommend only where the planting site is ordinarily well-drained but held water longer than usual because of extremely heavy and frequent rains.

If you have a *Phytophthora* problem: put the dead seedlings directly into garbage bags and send them to the landfill; seed the planting holes with grass to contain spread of the pathogen, and do not replant American chestnuts there, or nearby downhill from the *Phytophthora*-infested area.

VOLES

They make tunnels in field and forest, feeding on insect grubs, worms and roots, and like many other creatures they fancy American chestnuts.

With no voles in the neighborhood, you can protect direct-seeded chestnuts with a tree shelter about 10 inches tall, driven two inches into the soil and staked in

place. The nut is planted no more than an inch down and covered with peat moss, and the shelter is surrounded by a 5-foot tall weldwire cage to protect against raccoon, rabbit and deer.

Voles simply undermine this defense and eat the chestnut root as it emerges below the shelter barrier. The control recommended for commercial orchards presumes an ability to visit the plot daily; if you may be able to do this, then contact your County Agent for help. Other possible courses of action include planting daffodil bulbs (which are poison) in a wide circle around each chestnut and/or mixing ground glass around and below each chestnut. More vole control suggestions are most welcome.

NWTF GRANT

This year a **National Wild Turkey Federation** grant of \$5,000 continues support for planting second generation all-Americans (F₂s) and making grafts of them to test their blight resistance and to establish two seed orchards on public lands.

For part of this project, we cooperate with the **Virginia Department of Forestry** in the Lesesne State Forest. In February, they cleared an additional acre or so to make more space for planting & grafting. This past November and March, in last year's planting rows, we filled the empty places by direct-seeding. This September, I counted 112 F₂ seedlings there, (Miles x Ruth) and (Ruth x Miles). Although three of the seedlings are 6 foot tall and three are 5 foot tall, the majority grew very little this year because of intense weed competition (over 8 feet tall) and a non-lethal virus infection on the leaves.

The grafts of these F₂s in several sites number 54, but they represent only 40 individuals, and of these it appears that only 5 may be large enough to begin blight resistance testing in May 2004, while the others will need at least one more growing season to reach the required diameter of 1.5 inches at breast height.

The test for blight resistance includes inoculation with a killing strain of the blight fungus, after which the canker growth is measured over a 2-year period.

Our new seed orchards are under development in cooperation with the **USDA-FS, Blacksburg Ranger District**. The Craigs Creek project now has 22 grafts and 5 seedlings, all from the same controlled pollination (above). While 7 of them are over 12 ft tall, we did not plan to use these grafts for resistance testing, but instead,

to put them under integrated management as soon as they are naturally infected by blight.

The final step in integrated management involves regularly checking for blight and inoculating the first blight cankers (on resistant individuals) with hypovirulent strains of the blight fungus selected from the research cultures at **Virginia Tech**. In May, we inoculated with hypovirulent strains the first three F₂ grafts to be infected with blight, in 2 other test plots.

In our Poverty Creek project, the Forest Service has cut less than an acre in a mesic, east-facing cove site where we shall begin direct-seeding this November to establish a new breeding line with different parent trees.

LARGE SURVIVORS

Recently there has been a great deal of public interest in searching for additional American chestnuts which appear to have survived the blight and therefore might be useful to programs breeding for blight resistance.

While this is a worthy project, our limited personnel and resources are fully employed and often working overtime. We cannot take time off to check out a discovery unless the American chestnut is growing in heavy blight territory, not on the periphery of the natural range, in a forest setting, at an altitude over 3,000 feet, and it is over 10 inches in diameter at breast height with visible blight, but no serious crown damage. No doubt there are numerous survivors which miss the above description by only one or a few criteria and are therefore well worth the effort of saving the genes for future testing and breeding. This could be done best by nutgrafting. Those interested will find a detailed description of how to make nut grafts in Ed Greenwell's paper at:

<https://www.accf-online.org/chestnut/nutgrafting.htm>

GRAFTING REPORT

This was a mediocre year for me. I have just 25 new grafts, including two that were made by **Jenny Cooper**. Overall, a total of 125 of my grafts survive on 9 different sites. **Carl Mayfield** reports a total of 50 ACCF nutgrafts, which includes 30 new nutgrafts this year.

Burnie & Essie Burnworth attended April grafting lessons and have reported 4 of their grafts at Stronghold, MD, are growing well.

Grafting invitation: learn chestnut-grafting techniques at Virginia Tech in April of 2004, by appointment on a morning of your choice. This invitation is open to all growers who send an additional donation to support ACCF research. Please respond in February, suggest two dates (from which I could choose one) and indicate how many grafts you plan to attempt, so that we may have enough scionwood to share with you.

GROWERS' REPORT

If you followed our recommendation to plant on well-drained sites, 2003 was a great growing year throughout the East.

I have counted 191 survivors, and my tallest from a 2002 nut direct-seeded is 2 feet! A few of my 2- and 3-year-olds have doubled their height. While our Western growers hauled water, we pulled weeds and cut competing trees. American chestnut seedlings hardly ever succeed without a good deal of work.

Ed's Nathan Pease American chestnut is still looking good, but my graft of it will not be large enough to begin its blight-resistance test until 2005.

Thanks very much for reporting! We have so far received reports from **114** growers of **4,166** ACCF chestnuts surviving in 2003. Sometimes I wonder if everyone understands that total of ACCF seedlings surviving means the grand total for all years' plantings. We accept additions and corrections. Late reports will be added to the above numbers as they are received.

This past year we sent 7,627 seedlings and 6,917 seednuts to cooperating growers in 37 states and Ontario.

SEEDNUTS

We are expecting a smaller crop of seednuts here in Virginia because of the very heavy and frequent rains during pollination time. **Each grower may request 15** nuts, but we will probably run out of seed earlier than we did last winter (January 21).

I did not put many control bags in the Miles and Ruth grafts, thus many more of their open pollinated nuts may go out to our most reliable, reporting growers.

Looking out our dining room window, I saw female flowers in our Pie chestnut's crown. In between rains, I tossed into its upper branches the catkins leftover from this year's-controlled crosses. These father trees may give this year's Pie nuts many more interesting possibilities, so they also will go only to our growers who have reported.

HARRY HOTINE SCHOLARSHIP

We have awarded the graduate student, **Eric Hogan**, a research scholarship in memory of my father, a self-educated man who knew and loved the trees, all the Latin as well as common names, and was a great believer in education and hard work. With this scholarship we recognize Eric's contribution to American chestnut research through long hours of careful work in the laboratory.

OUTSTANDING COOPERATORS

Many thanks again to **John Buschmann, John Buschmann, Jr,** and **the Jones Family** for pitching in and supporting our work in the Lesesne State Forest.

Once again, **Violet Pesinkowski** (NY) and **Carl Mayfield** (VA) have been extremely generous in support of the graduate student research at Virginia Tech.

Mark Depoy, Mammoth Cave National Park, (KY) was responsible for planting 2,000 additional ACCF seedlings in our National Parks.

Thanks to **Jason Kramer** for engaging Biology and Botany students at Yough High School in a large project, raising American chestnuts from seed, planting them on Pennsylvania State Game Land and sending us an A+ report.

Thanks to **John Knouse**, who once again sponsored and manned an ACCF booth at an environmental fair in Athens, Ohio, we have many additional Ohio growers. And **Laurie Spangler** set up an ACCF exhibit at the Mill Mountain Zoo near Roanoke, VA.

Ken James (NY) continues his efforts to maintain and expand the largest American chestnut forest revival project outside Virginia.

Charles Lytton, (VA) Giles County 4-H Leader, continues work with area school children, organizing help for harvest at the Martin American Chestnut Planting, as well as spring field trips to area chestnut-growing projects involving the children in planting, maintenance and reporting; he also distributes seednuts to school growing projects.

We now have over 1,000 on the mailing list and look forward to news about all those American chestnuts.

Respectfully submitted,

Lucille Griffin, Executive Director

Other ACCF Directors

Gary Griffin, President, Virginia Tech Forest Pathology

Dave McCurdy, Vice-president, Superintendent, Clements State Tree Nursery, WV

John Rush Elkins, Secretary, Professor Emeritus of Chemistry, Concord College, Research Chemist, Beckley, WV

William Pilkington, Treasurer, ChFC, Cool Ridge, WV

Ed Greenwell, Director of Tennessee chestnut projects, Electrical Engineer, Cookeville, TN

Dedicated to the restoration of American chestnuts