

# The Bur

The Newsletter of the Virginia Chapter of  
The American Chestnut Foundation



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## Work with 4H to Recruit Future Volunteers

By Warren Laws

Without the hard work of thousands of volunteers like you, we would be nowhere near our goal of restoring the American chestnut tree. This is a long term process that will require thousands of future volunteers. Where will they come from? The obvious answer is our young people. For this reason, your Virginia chapter has been working with the 4H organization. 4H, delivered by Cooperative Extension, is a community of more than 100 public universities across the nation that provides experiences where young people learn by doing.

The chapter created seven kits for the Virginia 4H organization. Each kit contains a pamphlet, game and chestnut growing materials.

The pamphlet, designed for middle school-age students and their adult leaders, consists of a short description of the tree, what it was used for and a short story about a conversation between two siblings in the early 1930s in Appalachia. It also has instructions for the "Chestnut Survival Game" and how to grow chestnut seedlings. The pamphlet concludes with 24 questions and answers about chestnut trees.

The game, "The Chestnut Survival Game," designed by chapter board member Dick Olson, has been popular with adults and children. Players learn why most chest-

nuts never produce trees. It is similar to the game of Monopoly.

Finally the growing materials consist of a box with tree pots and a bag of fertilized chestnuts in peat moss. These were given out in the fall with instructions to refrigerate the chestnuts. After the chestnuts are "winterized" by refrigeration they are acclimatized to spring temperatures and planted in the pots. Within two months one can clearly see a small tree.

Copies of the pamphlet and other educational materials can be downloaded and printed from our website: [www.acf.org/va](http://www.acf.org/va). Click on "The Chestnut Story" and then "Educational Materials." You will find a downloadable copy of the 4H pamphlet, word puzzles, a maze, etc.

In the years to come we will need thousands of volunteers. Help our mission by passing this information on to youth leaders, teachers, parents and any others.



Charlie Chestnut

## Building on Success: The President's Message

By John Scrivani, Virginia Chapter President

It is with great pleasure that I begin a second term as Virginia Chapter president (my previous term was in 2012). Part of that pleasure is the opportunity to work closely with Cathy Mayes, who has provided invaluable leadership since the Chapter's inception—leadership that enabled our dedicated group of volunteers to accomplish so much in a short 13 years.

At the beginning of the 20<sup>th</sup> century, before the blight, I roughly estimate there were over 500 million to 1 billion chestnut trees in Virginia. The blight, introduced from Asia, spread throughout Virginia in the 1920's and 1930's. The first Virginia forest inventory, undertaken in 1940, estimated that standing dead chestnut trees accounted for over 15% of the board-foot volume of all trees in the Virginia mountains, with roughly half that volume in trees over 2-feet in diameter. And that was after many trees had been salvaged or fallen naturally.

I began working on American Chestnut restoration 29 years ago when starting out as a research forester with the Virginia Department of Forestry. At the Lesesne State Forest in Nelson County I was introduced to the efforts and thinking of both Tom Dierauf (Forestry) and Dr. Gary Griffin (Virginia Tech and the founder of the American Chestnut Cooperators Foundation). That year, I also had the opportunity to visit the TACF Meadowview Research Farm and meet Dr. Fred Heberd (TACF Scientist Emeritus/current VA Chapter Science Chair).

Looking back, I see these four individuals, Cathy, Tom, Fred and Gary, as key leaders among many successful stewards of the American chestnut population in Vir-



ginia, a population that was devastated by the blight, but not eliminated, a population that is biding its time—resprouting, occasionally flowering, and sometimes achieving tree size. Current forest inventories estimate that about 87 million chestnut trees and sprouts continue to survive in Virginia, making up 23 percent of the estimated survivors across the pre-blight range. Hence our Virginia population is key to the species survival and restoration. Only a small portion of these 87 million Virginia trees have the opportunity to flower or achieve the stature of mature trees. The Virginia Chapter, and others, have located several hundred of these individuals and have been able to use them in breeding for resistance. The Chapter backcrossing programs, supported by the

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National backcrossing program, has established 14 breeding orchards in Virginia and planted roughly 4,200 backcross trees. These orchards have been challenged with blight inoculations and the best families have been selected and planted in seed orchards to produce the first generation of partially resistant restoration chestnuts.

Thus, a new population of American chestnut, with nearly pure Virginia genetic heritage, has germinated and is growing, thanks to the efforts of its human stewards, led by folks like Cathy and Fred. However, backcross breeding is not the only avenue that chestnut has available to it. The ACCF, led by Gary Griffin, is using traditional breeding to utilize the low levels of resistance found in some large, surviving pure American trees. The SUNY-ESF transgenic program, supported in part by the New York Chapter of TACF, has transferred a blight-resistance gene from wheat that shows the promise of high-levels of resistance. To be successfully deployed in Virginia, the transgenic approach requires both pending regulatory approvals and backcrossing to native Virginia trees to insure genetic diversity and adaptability to Virginia conditions. Furthermore, both the traditional and transgenic breeding programs should be designed to convey genetic resistance to *Phytophthora* root disease.

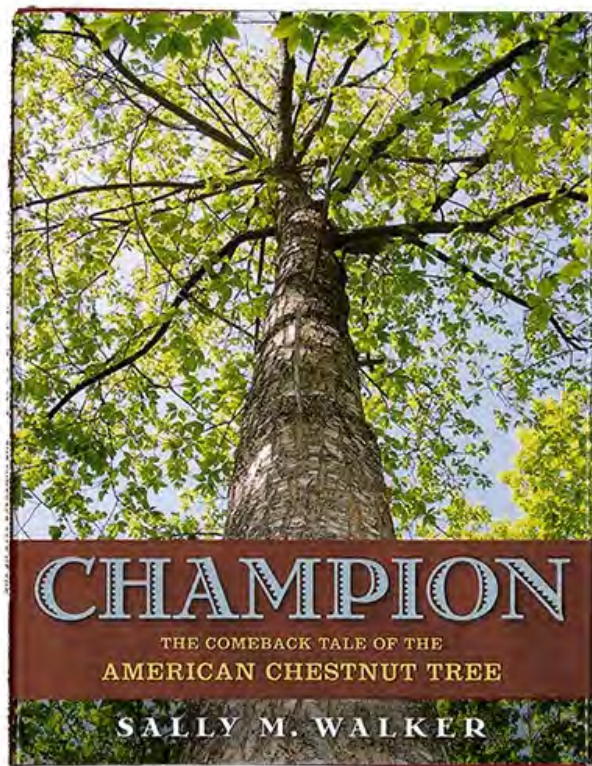
So as the current and future stewards of the Virginia chestnut population, we have our work cut out for us. We plan to continue establishing seed orchards from our traditional breeding program, seek out and capture wild trees from throughout Virginia, establish and maintain these trees in germplasm conservation orchards, and explore future options for additional sources of blight and *Phytophthora* resistance. The restoration of the American chestnut is a long-term commitment and will be made

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## Champion: a Book Review

*Champion, The Comeback Tale of the American Chestnut Tree*, by Sally M. Walker, is the latest story of American chestnut—its historical importance, its demise and its road to recovery. Written at a middle-grade school level, it is well illustrated and contains many helpful photographs. Appendices provide additional background information, including source notes, a glossary, and a bibliography.

Like many chestnut enthusiasts, Ms. Walker learned about chestnut as a girl from her father. After retelling why the tree was so important to our ancestors, she devotes chapters to each of three different approach-



es scientists are currently pursuing to restore the tree: Research at the Connecticut Agricultural Experiment Station to use strains of a virus to invade and weaken blight fungus; the backcross breeding program of The American Chestnut Foundation;

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*The Chestnut Tree*, by Louis Randolph Hammond

Upon a hill, against the sky,  
     His long, gaunt, leafless hands  
 On supplicating arms held high,  
     A lonely chestnut stands.

A giant, once in green arrayed,  
     A mighty monarch, he  
 Was lord of all that he surveyed:  
     This stately chestnut tree.

In autumn when the leaves were brown  
     In our beloved lands  
 He sent a shower of ripe nuts down  
     To eager, waiting hands.

From mighty chestnut trees had come  
     New shingles freshly riven  
 A roof for hardy settler's home –  
     Rich gift that God had given.

A proud old tree like this was there  
     To spread a mantle wide  
 Above the village smithy where  
     The blacksmith's trade was plied.

Into the forest you Abe went,  
     His keen and flashing blade  
 Deep into the lordly chestnut sent  
     And miles of rail fence made.

But years passed on, and one day by  
     Omnipotent decree  
 The Maker of All Things on high  
     Brought low the chestnut tree.

So on a hill, against the sky,  
     With leafless, empty hands,  
 On supplicating arms held high,  
     Forlorn, in death, he stands.

Rev. L. R. Hammond was Pastor of the Catawba Circuit of The Methodist Church in Virginia from 1965 to 1968. During that time the Preacher penned this poem, "The Chestnut Tree," about a standing skeleton American chestnut tree behind of the home of Kyle and Doris Shelor in Catawba, VA. The Shelor's daughter, Nina Davis, shared a photo of the tree and its very own poem. As an interesting aside, she talked about helping her parents cut that old, dead tree into stove wood with a crosscut saw. For the kitchen stove this is only 12 to 14-inch long pieces of wood, quite a chore with hand tools.

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possible by both the resiliency of the species and the assistance of its human friends. I am honored to provide support to the many stewards of the Virginia chestnut population, the volunteers and supporters of the Virginia Chapter.

*“A society grows great when old men plant trees whose shade they know they will never sit in.”*

— Greek proverb

### Seed Orchards are Taking Root

In the past month, Virginia Chapter volunteers have planted more than 5,000 B3F2 chestnuts in our seed orchards. About a third went into each of our two existing seed orchards, Sky Meadows State Park and Banshee Reeks Natural Area, and the last third went into a new seed orchard at the State Arboretum of Virginia/Bland Experimental Farm. The Bland seed orchard is inside the fence that was erected for their breeding orchard in the northern

corner of the property. You can see the orchard when you drive, jog, or ride around the Loop Drive.



The Chapter also started a new germplasm conservation orchard (“GCO”) at the site of the breeding orchard in Warrenton. A GCO is an orchard of pure American chestnuts, which we are raising for future use in breeding programs, including the possible breeding of a transgenic chestnut. The Chapter has several GCO’s already in place and is considering adding more.



Planting seeds at Sky Meadows Seed Orchard



Volunteers recently planted hundreds of seeds at Sky Meadows Seed Orchard.

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and work at the State University of New York's College of Environmental Science and Forestry to develop a genetically altered tree. The final chapter discusses the challenges of restoration. Each is a thoroughly up-to-date treatment of contemporary science.



Though the science involved in restoring the American chestnut tree is complex, Walker provides the background knowledge and instruction needed for the reader to grasp the concepts involved, if only starting with a basic understanding of biology and genetics. It is a great book to place in school libraries for use by teachers and students. Incorporating the story of the American chestnut into school curricula at all levels can spark interest in the young people who hold restoration success in their hands.



Look for catkins to appear in coming days!



Preparing the ground for seed planting at Sky Meadows Seed Orchard in Fauquier County

#### Opportunities to Volunteer Your Help

The Virginia Chapter of The American Chestnut Foundation is very actively promoting the development of chestnut trees for the future benefit of our forests. Many skills are needed. To volunteer, contact us at (540) 364-1922 or email us at [vachestnut@verizon.net](mailto:vachestnut@verizon.net)

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Volunteer Profile—Cindy Ingram

Cindy Ingram never says, “No.” Her curiosity and energy combine to tempt her to try anything and everything that catches her attention. Making a career change from accountant to farmer, she enrolled as a very adult student at Lord Fairfax Community College in the agriculture program. One of the courses was about plants, and there she heard the chestnut story. It brought back memories of family stories she heard in her childhood in Appalachia, so she decided to see what we were all about. She has somehow managed to find time to help our education program, with field work, as a board member, and as spokesperson while still attending school (now at James Madison), working two part-time jobs, and operating Casey’s House, a rescue home for 40 unadoptable cats. Her academic interest is understanding the harmony between faith



Cindy and her grandson Charlie

and science. We need both to restore the American chestnut.

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