

Dear Friends & Cooperators:

This year we will begin distribution of the newsletter by email, while welcoming any cooperators to choose the option to continue receiving a paper copy if preferred. We ask all who want a paper copy to please send us a note indicating that preference.

Updates and changes to contact information can be made by emailing Denise Greenwell at denise@accf-online.org or by mail to: ACCF, P.O. Box 102, Ridgecrest, NC 28770.

GROWER REPORTS:

Many thanks to the cooperating growers who, in 2022, reported thousands of surviving ACCF chestnuts. Reports contained positive results overall, but remember that each report, even one of total loss, is important and provides relevant data. As Lucille says, almost every grower, no matter the length of their dedication and expertise, at some point will experience a disaster or year with poor survival rate. It is the nature of nature; do not give up! We welcome your reports at any time.

Please note our new addresses for report submission:

Send Growers Reports to: Reports@accf-online.org
or to: ACCF, P.O. Box 102, Ridgecrest, NC 28770

2022 NUT HARVEST:

Beginning in early September, Lucille monitored the ACCF breeding orchard to check for definition and delineation on burrs. This means looking for a notable definition of the seams (where burrs will open to reveal nuts), which can be an indicator for nut release timing. This forecasting is helpful when it is necessary to beat nut-foraging squirrels. Because ACCF chestnuts vary in their nut-release timing, the full harvest window extended from the beginning of September into the middle of October. All in all, 2022 was a high-yield harvest and we successfully fulfilled all Cooperators' nut requests. Great thanks to all Cooperators who worked to prepare planting spaces and planted nuts from this harvest.

During the harvest period, a trespasser entered the ACCF breeding orchard and cut off a significant number of unopened burrs in a destructive manner. This unfortunate theft of ACCF germplasm and resulting damage to several of our orchard trees has left our organization on high alert.

We want to remind Cooperators and those interested in being part of the ACCF breeding program that the ACCF focus on purity is a unique approach to American chestnut breeding and restoration. ACCF materials are not available for use in the genetic engineering and hybrid work with American chestnuts. Combining these methods with ours negates the objective of our work. ACCF methods and these alternative methods are mutually exclusive approaches to American chestnut restoration.

With this in mind, we hope all Cooperators carefully consider and honor the details of our Grower's Agreement and will ask all Cooperators to complete this agreement annually. Please reach out to us [ed@accf-online.org or our P.O. box (see above)] if you have any questions.

GMO DEBATE:

As some of you may know, a genetically engineered American chestnut tree, called the Blight-Tolerant Darling 58 American Chestnut, has been developed, and its proponents have sought government approval for its unregulated release into the American chestnut's natural environment. ACCF has been active in its opposition to this release. We presented our views to the public through media outlets (for example, see

the following link:

<https://www.counterpunch.org/2022/12/22/the-wild-american-chestnut-is-on-its-way-back/>). The Board also submitted an oppositional response on the Animal and Plant Health Inspection Service's (APHIS) docket related to the draft environmental impact statement and draft plant pest risk assessment during the public comment period. Our statement (see below) addresses long-term impacts that may result from the approval of the petition filed by the Darling 58 developers. Individual members of the Board also submitted comments that expanded on topics introduced by the group submission. Documents associated with this petition and the public responses are available online at the following link:

<https://www.regulations.gov/search/docket?filter=APHIS-2020-0030> . We appreciate the participation of ACCF Cooperators during this step in the government assessment process and urge each of you to use the resources listed in this paragraph to learn more about the debate around this petition.

ACCF'S STANCE AND OFFICIAL COMMENT TO THE APHIS DOCKET:

The American Chestnut Cooperators' Foundation is a nonprofit scientific and educational foundation dedicated to restoring the American chestnut tree to its former place in our Eastern hardwood forests. Priorities include the development of pure, blight-tolerant All-American chestnuts and ecological approaches to other challenges that impact American chestnut survival in the forest environment. ACCF was organized in 1985 and exists as an alternative to breeding and introduction programs using hybridization and genetic engineering techniques to preserve and restore the American chestnut in its natural range. The Founders of ACCF began breeding pure American Chestnuts for blight tolerance individually and collaboratively in 1975. ACCF now has multiple generations of pure American chestnuts, growing in breeding orchards and thriving in forest settings, that exhibit both durable blight tolerance and the structural characteristics of pre-blight native trees.

The American Chestnut Cooperators' Foundation (ACCF) urges the denial of the release of the Darling 58 Timber-Type Chestnut due to the existence of Blight-Tolerant, Pure American Chestnuts that have already been developed, the negative impact on the natural environment arising from cross pollination of genetically engineered (GE) Darling 58 with pure American chestnuts already in the environment, and the uncertainty of GE Darling 58 characteristics and performance for centuries to come, provided they survive. In addition, mature ACCF blight-tolerant All-American chestnuts are at risk for being used in the Darling 58 breeding program, which currently doesn't have perceived genetic diversity for widespread release. ACCF blight-tolerant All-American Chestnuts were not developed to be used in hybrid or GE breeding programs and those uses, intentional or unintentional, violate Grower's Agreements as well as the intents of ACCF researchers and ACCF-supporting Cooperators during their many years of planting, growing, and studying pure American Chestnuts.

Previous ACCF officers and workers:

- Dr. Gary J. Griffin, founding President, Professor of Plant Pathology, Virginia Tech, blight resistance mechanisms and environmental impacts, hypovirulence*
- Dr. John Rush Elkins, founding Secretary, Professor of Chemistry, Concord College, WV, resistance chemical markers research, grafter*
- Al Dietz, founding Vice President, pioneer in radiation breeding for blight resistance in American chestnut and locator of large, surviving American chestnut trees*
- Dave McCurdy, subsequent ACCF Vice President, Superintendent of Clements State Tree Nursery, West Virginia Division of Forestry, nursery propagation of ACCF seedlings*
- Bruce Given, West Virginia Department of Agriculture, early chestnut grafter for ACCF and locator of large, surviving American chestnuts*

Dedicated to the restoration of American chestnuts

FIELD NOTES:

WINTER PRUNING:

This is the time to prune your mature chestnuts or the trees surrounding your chestnut planting site(s). It is very important to prune trees while they are dormant as there are many biological consequences of pruning. The onset of fall marks the beginning of the dormancy window for deciduous trees; however, depending on the weather, full dormancy might occur later. To be safe, the most ideal time to prune trees is in winter, especially if the trees are stressed, compromised or susceptible to pests and pathogens. (The exception is non-deciduous trees. Evergreens do not go fully dormant and should be pruned during the growing season for best results.)

Pruning during dormancy is an advantageous practice for several reasons. This is the time when vascular tissues are relatively inactive, so the chance of disease and pathogen transmission is greatly reduced. Insects are less likely to be alive or active, and reduced sap flow will limit any active insects' attraction to fresh pruning wounds. Additionally, pruning when leaves are absent allows you to see the tree's branching structure as well as any damage that should be corrected, enabling you to make the most strategic cuts per individual tree.

Prune trees near your chestnut planting site to eliminate shading and minimize risk of your chestnuts becoming a target for damage from falling limbs. Many of you will have oaks near your planting sites. We assume this because oaks and chestnuts share ideal growing environments. In fact, when the chestnut population was decimated by the blight, oaks were among the dominant tree species that moved into the newly vacant forest-canopy space. As chestnut growers, we can appreciate oaks as an ecologically valuable species, especially for their hosting of pollinator populations (namely honey bees) that are essential to American chestnut pollination and consequential nut production. For oaks, especially, pruning during dormancy is crucial to avoid transmission of oak wilt. Oak wilt is caused by an aggressive vascular wilt fungus that chokes the fluid-conducting vessels of a tree and can lead to mortality in just a couple weeks. Oak wilt is spread by bark beetles, burrowing into a wound and feeding on resulting sap flow, and also by root-graft transmission. Trees of the same species, growing in close proximity, graft their roots together which allows for communication, sharing of resources, and unfortunately sharing of diseases. Thus, if you have a stand of oaks and one tree becomes infected, the others are likely to become infected as well.

Consulting with a certified arborist could be supremely beneficial. These tree specialists can help identify valuable, appropriate tree species around your site that are worth treating carefully. They can also assess whether surrounding trees pose any risk and advise accordingly for strategic pruning or tree removal if necessary. It is prudent to remember that removing trees functioning as a windbreak could expose other surrounding trees or your chestnuts to the risk of wind damage or uprooting. Even healthy trees can be damaged from new wind exposure or blown over into your chestnut plantings

You can find more details about windbreaks and ideal site conditions in the Planting Instructions that were sent out with the August 2022 newsletter (also posted in the ACCF Webrary.) Specific pruning recommendations for American chestnuts can be found in the Field Notes section of the August 2022 newsletter which is archived in our website: https://accf-online.org/accf_newsletters.htm . If you have any pruning or related questions not covered in these resources, feel free to contact Jenny Abla by email: jenny@accf-online.org or send a letter to: ACCF, P.O. Box 102, Ridgecrest, NC 28770

WINTER PROTECTION:

If you are experiencing an especially harsh winter and feel the need to protect your chestnuts, applying extra mulch is an option that offers insulation. Using high quality, aged mulch is important; triple-ground hardwood mulch is preferable. Be sure to taper mulch from the outside of the mulch coverage down to the soil surrounding the trunk, avoiding contact with bark.

Do not attempt to remove ice from your chestnuts. Such attempts can damage the bark and buds. If the weight of ice is bending *small* trees and you are concerned about cracking, you might temporarily prop them up. Any chestnut twig or branch that bends to the point of breakage can be pruned back to the main branch or trunk. When doing so, be careful not to cut into the branch collar as this will remove important cells designated for new growth and signaling to the rest of the tree. Diagrams and procedure for a desired pruning cut can be found at: <https://www.ncufc.org/Proper-Pruning.php> .

Now is also a good time to make sure the wire cages around your chestnut trees are intact to protect buds and twigs from winter/spring ungulate (deer and elk) browsing.

TRANSPLANTING REMINDER:

If you planted a nursery with your 2022 chestnuts, remember that early spring (before the last frost and before bud break) is the time to transplant them. *Be sure to have your permanent sites prepared ahead of time.* For step-by-step instructions, refer to the “Transplants” section of the Planting Instructions we sent out with the last newsletter. This information is also posted on our website in the Webrary: <https://accf-online.org/ACCFPlantingIns.pdf> .

IN MEMORIAM

It is with great sadness that we share the news of the death of Dr. Gary Griffin, founding President of the American Chestnut Cooperators' Foundation, in September 2022. Gary was Emeritus Professor of Plant Pathology at Virginia Tech where he was an eminent scholar, dedicated teacher, respected colleague, and valued mentor to his students and collaborators.

Gary was a meticulous and thorough researcher in the area of plant pathogenic fungi in crop species and forest trees. In 1974, he met Dr. John Elkins whose passion for restoration of the American chestnut brought him to Gary's Department for a research sabbatical. Their mutual interests led them to establish the ACCF, and with Gary's wife, Lucille, who was equally dedicated to their goals, they devoted more than 40 years to the development of pure American chestnut trees expressing durable blight tolerance. Gary's focus on the integrated use of resistance mechanisms, hypovirulence, and forest management to control blight on American chestnut trees has been fundamental to the success of the ACCF approach. The process was laborious, time-consuming, and filled with frustrations, but Gary's inherent capacity to recognize connections and willingness to pursue long-term investigations has resulted in the ACCF being the leader in the effort to restore the native American chestnut in eastern hardwood forests. His published scientific articles attest to the depth of his understanding of and scope of his insights into relationships between biology and ecology of fungal pathogens. His patient, methodical, and persistent study in the natural world will serve as an inspiration to future students and researchers interested in the preservation and conservation of forest trees, as well as in advancing knowledge regarding integrated management of plant diseases.

Dedicated to the restoration of American chestnuts



Gary and Lucille, ACCF Breeding Orchard, 2022

Gary's half a century of scientific discovery and work is honored by the steadfast dedication of Cooperators who carry on planting All-American chestnuts.

We thank you for your work and look forward to reading your reports.

Board members Ed, Joyce and Jenny contributed to this newsletter.

Respectfully submitted,

Jenny Abla,
Vice President
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ACCF Board of Directors:

Ed Greenwell, President, Electrical Engineer, New Johnsonville, TN
Jenny Abla, Vice President, Arborist, Black Mountain, NC
Joyce Foster, Secretary, Research Biochemist, Beaver, WV
Phillip Martin, Treasurer, CPA, MartinArthur CPAs, Christiansburg, VA
Denise Greenwell, Webmaster, Computer Engineer, New Johnsonville, TN
Lucille Griffin, Executive Director Emeritus, Newport, VA

Donations - ACCF is a 501(c)(3) organization. Send donations to:

Phillip Martin, ACCF Treasurer, 405 N Franklin Street, Suite B, Christiansburg VA 24073

Mailing address for all other correspondence: ACCF, P.O. Box 102, Ridgecrest, NC 28770

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