

American Chestnut Cooperators' Foundation

2017 Newsletter

GROWER REPORTS:

Many thanks to the 116 growers who, last fall and winter, have reported a total of 3,103 ACCF chestnuts surviving. After abandoning parts of some research plots deemed not worthwhile, in the 16 remaining plots, I count 670 chestnuts still under my scrutiny and care. They can be divided into three approximately even groups by size, small (contained within 5-foot cages), medium (leader safely above deer-browse level and protected by 4-foot cages), and large (thick bark that deer rubs cannot injure, some cages removed). They were grown from controlled- and open-pollinated chestnuts, the same as those we have been sending out to growers since 1986.

2016 HARVEST:

From our 2016 harvest, 110 cooperating growers planted 2,599 chestnuts. I planted in small nursery cages 150 additional nuts, from which varmints stole the lion's share. And some growers picked their chestnuts at harvest, taking them home in the burs to process themselves, as most growers will be doing from now on. To **Carl Absher, Brian McCrodden, Cathy & Richard Stoffer, Bill & Ruth Valentine** thanks again for your help at harvest.

2017 HARVEST:

We have received request forms from 15 states; eleven of which have at least one harvest volunteer (VA, OH, PA, TN, WV, MA, NY, KY, IN, MI, WI). It may also be possible for growers from other states who are unable to attend harvest to get their burs from a harvester in the vicinity of Knoxville (TN), Rochester (MA) or Whitesburg (KY).

The NY volunteer lives out East on Long Island. On reading the summary above, perhaps some additional growers may note a possibility to acquire chestnuts; you may ask for the new Grower form via email and should mail it to us by mid-August.

Open harvest days will be September 12, 16, 19 & 26 and October 3, 7 & 9. We shall accept no more than five volunteers on each of the first two dates, because we have just a small number of chestnuts that crack burs and drop nuts early. If you choose Sept. 12 or 16 send early notice allaccf@gmail.com, to be sure to get your desired date.

I shall verify your date choice via e-mail and everyone who plans to participate will receive a sheet of directions to the Airport and the Big Field on Mt. Lake, along with what to wear and complete chestnut processing information. We start at 9 a.m. at the Airport, then move on to Mt Lake.

WHY GRAFT?

Long ago, when I used to report the number of grafts I had made each spring beside the number that actually grew, considering my poor results, a grower wrote, "If I were you, I'd give up grafting." With many more years of experience, my numbers have not improved. There are just too many ways in which an outdoor graft can fail, and everything under the sun must be perfect for one to succeed. Among the many hundreds made since 1990, just 68 of my grafts survive. Only three of last year's bark grafts made it through the winter, and this spring's grafting produced only two whip grafts and three bark grafts.

On the other hand, three of Bruce Givens' grafts from 1980 survive in very good shape and produce nuts, along with my 1991-yard graft, plus 12 others started at various locations between 1999 and 2004, all in good to excellent shape. These are grafts of original blight survivors and selections from our first- and second-generation all-American intercrosses. Without the grafts of original survivors, their genes would have been lost. This is also the case with a few of the second-generation intercross grafts, where the originals were killed by ambrosia beetle or *Phytophthora*. More recent grafts have replicated our best chestnuts in both of the breeding orchards and in many forest research plots at various altitudes, terrain, and aspect.

Thus, the grafts verify Gary's judgment of blight resistance, improve the quality and diversity of available pollen in our breeding orchards, and search the limits in which our chestnuts may be expected to survive and thrive. And occasionally, grafting can shorten breeding intervals by as much as eight years, when a graft succeeds and grows rapidly beside its desired mate.

CHESTNUT PRUNING can be safely done in fall, when the blight fungus does not sporulate; thus, blight infection is unlikely to be carried into new bark wounds. We prune dead limbs wherever possible but have cut healthy limbs in the past only to keep smaller chestnuts or new grafts from being rubbed or shaded out by larger spreading branches.

Pruning is always a difficult choice. I have avoided it for too long and paid the consequences this summer when a 12-foot tall, densely limbed graft in full flower was blown over. Many much larger grafts in our Airport plot are similarly at risk, since the sheltering woods that used to surround them have been felled to make a second runway. **Carl Absher**, retired arborist, has helped select the branches we shall prune properly this fall and in the meanwhile, he cut some of their length to decrease the profile standing against the wind. He also stabilized a 20 ft tall, very rapid growing second shoot by using padded ropes tied to an anchor, an opposing branch and a larger chestnut. A similar shoot had already been taken down by the wind. More thanks to **Carl** for helping to save these grafts.

Should circumstances suggest pruning any of your American chestnuts, we advise consulting an experienced arborist and don't forget that fall is the proper time for this job. Also, any growers who are about to set out a new chestnut plot in an exposed area, would be wise to plant a line of trees if there is nothing else to buffer the West wind.

WOODLAND PLANTING

This summer **Mark Miller and crew, USDA-FS**, are taking over the heavy work in six very fertile research plots in the Jefferson National Forest. We planted four of them in 2010, in the clearings from a timber harvest of trees killed by gypsy moth. The small chestnuts in my two earlier plots on this mountain survived the same scourge because I sprayed them with Sevin after every rain and spent a lot of time picking off and squashing caterpillars.

Many very large stumps and not a few native chestnuts dotted the newly cleared land. The stumps announced great growth potential. It didn't occur to me that this applied equally to all the other trees that might sprout from old roots, or be freely sewn from other trees, or that briars over 10 feet tall and grape vines as thick as hawsers might also thrive there. Within a year or two my little chestnuts were mostly shaded out; the whereabouts of many was hidden, cages and all.

Exceptional soil fertility, requires regular, extensive control of competing vegetation. No hired help would take on this job more than once. Many thanks to **Mark and his crew** for coming to the rescue. Also, thanks again to **Harry Cooper** and **Eric Hansen** for volunteer help in some of these and several other research plots.

This area also has resident ambrosia beetle, gall wasp and (last year) cicada. I have just finished treating 54 chestnuts, from five to nine feet tall, with **Bayer Advanced Tree & Shrub (BATS)** to protect them from these insects which are unlikely to threaten the very small or large thick-barked chestnuts. The job took three days: inside each cage had to be weed-free first, then the **BATS** applied and watered immediately.

In any case, I always clear weeds inside the cages, so I can see the first blight cankers, which usually appear at the base, because we judge chestnut resistance by how long they are able to keep the blight under control. Also, those weeds must be cleared to see rodent holes and tunnels where poison bait can prevent damage to the roots. It may take the rest of July to weed inside cages and treat chestnuts in the last five plots.

You may keep all the above in mind when you consider making woodland chestnut groves. If you expect them to amount to something, American chestnuts require regular attention for nearly as long as children. Should you make a large planting on your own land, you will have taken on a major maintenance job. However, unlike the children, your chestnuts cannot move away.

PAST NEWSLETTERS can be found archived below the most recent one on our Web site. For new growers, we recommend reading **RODENT CONTROL** and **INSECT CONTROL** in the 2016 Newsletter, and also, **PREVENTION IS BEST** and **SIGNS OF STRESS** in the 2014 Newsletter.

We have received quite a few inquiries about another breeding program which predicts blight resistance in American chestnuts into which their scientists have inserted a gene supposed to inhibit fungal growth. While this may work for annual field crops, we think it unlikely to succeed through the life span of a tree. Since our first progeny evaluations in the 1980s, the evidence strongly suggests that characteristics necessary for durable blight resistance may involve several genes,

perhaps many. As we walk through the Big Field, it appears likely that all of them may be found in American chestnuts.

Respectfully submitted,

A handwritten signature in cursive script that reads "Lucille". The signature is written in black ink on a light-colored, slightly textured background.

Lucille Griffin, Executive Director

Other ACCF Directors

Gary Griffin, President, Plant Pathology, Virginia Tech

Ed Greenwell, Vice President & Director of Tennessee chestnut projects, Electrical Engineer, New Johnsonville, TN

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Dedicated to the restoration of American chestnuts