

American Chestnut Cooperators' Foundation

2015 Newsletter

Dear Friends and Cooperating Growers:

GROWER REPORTS:

We received 155 reports this past winter from cooperating growers, for a total of 2,609 ACCF chestnuts growing in 29 states and Canada. Fewer reports and fewer chestnuts than the previous year was a disappointment. We guess it might be partly attributed to discouragement of far northern growers, because of high losses sustained over the very severe winter of 2012-13. We strongly encourage all growers to report by fall of each year, no matter what. Even if your report may be a zero, it tells us that you have not given up and can try again another year. Most of our best, long-term growers have experienced disaster at one time or another. I myself learned the hard way most of what I know about raising American chestnuts. Our newsletters aim to share that experience, in hopes of making your job a little less challenging.

Our chestnut census in Virginia Research plots as of mid-June is 812 of which 146 we planted last fall from the 2014 harvest. Our heavy losses were in the Lesesne; I have decided we should no longer count the chestnuts there which have not yet demonstrated blight resistance and are growing in any of the sections in which *Phytophthora* and/or voles are likely to prevent them from reaching the 1.5 inches in diameter at breast height (DBH) which we require for blight resistance testing.

Our most shocking setback occurred in a seven-year-old research plot of third-generation intercrosses. Half of the larger seedlings and several smaller ones made grossly deformed, undersized and discolored leaves. On many, all the leaves were ruined, while on others the deformities showed up on half or fewer of the branches. Gary investigated; he suspects a chemical weed treatment on the driveway above may have drifted through the plot. I cut many trees at ground level and severely pruned several others. I have counted all these trees in our census, because we expect them to sprout back from the root. The moral of the story: better plant where you have total control of area maintenance.

HARVEST:

From our 2014 harvest our friends and cooperating growers planted 4,090 chestnuts. Lucky for me, 1,362 of these were planted by harvest helpers who took their chestnuts home in the bur to process themselves (in a hot water bath at 120 F for 20 minutes, cool, dry, and plant). It was a big harvest, and we had fewer than the usual number of growers, so I contacted as many as possible via email and nearly all of these growers agreed to plant more than the usual limit of 10. In case a surplus should occur again, please indicate on your chestnut request whether you may be able to plant more than 10 chestnuts this fall and if so, how many.

Help at harvest is always welcome. We begin this work usually in the second half of September. We work on weekday mornings from 9 to 12 noon. To volunteer, contact me in early September via email at allaccf@gmail.com. At that time, I should be able to make a good guess to let you know when help may be needed.

PLANTING AMERICAN CHESTNUTS:

The planting directions we send in the thank you letter following your report and donation are more or less the same year after year: we ask you to prepare the planting place well in advance, and sink an eight-inch tree shelter three inches down in the center of four- or five-foot tall wire protection cages that are supported by one or two robust stakes and decorated with bright flagging. Upon receiving your chestnut seed, you then push one nut into the soil inside each shelter, cover with an inch of peat moss and secure netting over the top of the shelter.

In a single page the space is insufficient to give all the reasons for our recommendations, although last year we did print additional advice on the other side of the page, especially for northern growers following that very severe winter. Below we shall give you the reasons for our planting recommendations, as well as some alternative ideas for dealing with exceptional or unforeseen circumstances.

Tall cages keep the deer from eating the chestnut tops so your chestnuts have the chance to become trees rather than bushes. I use both four- and five-foot cages. The five-footers have a 2" x 4" grid, good for deterring nibbling by small animals, also. Once a chestnut is seven feet tall, I switch to a four-foot, woven wire cage which has a much larger grid, thus is more convenient for weeding inside cages. To weed in the taller cages, you must first remove the cage. Our directions call for the cages to be 2.5 feet in diameter; however, narrower cages, 20" in diameter, can be used with success if you take care to keep the tree leaders centered within their

cages. To do this, cut a two-foot switch and lay it across the cage grid at center, between the seedling and the side that faces the sun, toward which the seedling would otherwise be likely to grow out of the cage, to be nipped off by deer. Narrower cages are, of course, useful to save money, but also much easier to carry in the woods, up or down the mountain.

Sunken tree shelters can protect seed nuts from underground attack; the netting deters field mice from nesting inside where they are likely to discover a treat in their basement. The shelters also help retain soil moisture, to stimulate rapid first-season growth, and some years they eliminate the need to water. The netting must be removed in spring, once a seedling has four leaves, to prevent deformity, in case a growth spurt should be held down by the netting. The shelter should be removed during dormancy, following the first growing season, unless the seedling is not yet 12 inches tall. Remember, the chestnut taproot is at least as deep as the seedling is tall. However, leaving the shelter in place longer than necessary risks an early blight infection on seedlings much too small for blight resistance to prevail. The damp environment inside shelters makes them excellent incubators for the blight fungus.

In places where raccoons are a regular nuisance, tree shelters are a bad idea. It is not possible to stake a shelter in place in such a way that cannot be defeated by a big, curious raccoon. Once the raccoons learn what is protected by shelters, a shelter invites theft. In this case, chestnut plantings must be disguised. After the area which is to be inside the cage has been reworked, roots, rocks & weeds removed, you push one or two chestnuts into the loose soil no more than an inch and not near the center, cover with soil and stamp down the whole area, compacting the bare soil to look as if nothing has been planted there. I have twice done this in areas where raccoons had stolen all of the last season's sheltered planting and both times enough chestnuts grew to fill all empty cages; one time I needed to make new planting places for the surplus. In November, you transplant the extras to have one per cage. Choose the smaller ones for transplant, and center the one left in its original cage, by moving the cage slightly.

If you should accept much more chestnut seed than you have prepared places to plant, proceed in much the same way as when fooling raccoons. In this case, you use small grid cages of larger-diameter, but four-feet is tall enough when making nurseries. I prefer to put nursery cages in semi-shade so that the seedlings will not grow very big, thus can be moved and transplanted more easily (in November).

After the soil inside the cage is prepared as above. Using four-inch spacing, you press the chestnuts one inch down, cover with soil, compact the soil by stamping. Return once a month to look for signs of tunneling, mounds or holes inside or near the cage. To deter voles or moles: If you discover signs of digging inside or near the cage, sprinkle cayenne pepper around the cage perimeter. In this way I have planted up to 14 chestnuts per cage. Over a three-year period, more than half of my nursery plantings have yielded at least 90%; in the rest we usually got 50% success; but where vigilance was lax, one nursery planting was wiped out.

Small nursery seedlings require special transplanting. First clip off any remnant of the nut, which might otherwise attract trouble. Although, in woods where oaks and nut trees seed themselves, the squirrels expect to find a nut attached, so will uproot small transplants unless you protect them through the first winter in short tree shelters covered with netting. Plant seedlings at the same level as they were growing in your nursery and press the soil firmly around them, then push your shelters into the soil. Eventually in all our research plots, tunneling varmints have discovered chestnut plantings, although in one plot it took them more than 10 years to move in.

GRAFTING:

I made 90 new whip grafts, of which 16 are still growing, most of them at or over four-feet tall by June. One is in poor shape, with its stock being undermined by an unidentified tunneling varmint. Once again in late March, we had a two-day freeze following the first warm spell, but it was not as severe as in the previous spring, and I had taken measures to minimize losses: after completing a graft, now I always cut away all other chestnut shoots from that root system, to prevent the shock of a late freeze from weakening my stock, and I put double bonnets over the shelters on all grafts made in March. Once again, from more than half of the chestnuts on which I had collected scions, I did not get a single successful graft; while in most cases, the other scions made more than one successful graft. Therefore, I am attributing up to half of my failed grafts to weak scions, and for the rest, careless technique must have caused the failure. It is always tempting to keep on grafting when the weather conditions are perfect: overcast with no wind and high humidity, cool but comfortable for working outdoors. But better to quit before you are tired, give thanks for that day and trust that others like it may follow.

65 of my older grafts survive; 35 will bear nuts. I lost three grafts, ranging between seven and 15 feet tall, one on which I had collected scions last winter and which had born chestnuts last fall. They were undermined by tunneling which permitted blight to develop underground, below the graft union.

OUTSTANDING COOPERATORS:

Thanks again to **Mark Miller**, and his **USDA-FS crew**, for cutting out the competing trees in our Turkey Run plots, where they grow so fast, I was unable to keep our seedlings in the sunshine. Many thanks to **Bill Valentine, Brian McCrodden, Mr & Mrs Vincent Santamaria & Suzy, Richard Stoffer, Mark Castator, Jane & Jim Reilly, Corry Shaffer & Sarah, Berenice Knight, & Ross Ritch** for volunteer harvest help and also for planting large numbers of the harvest's precious surplus. Once again, **Corry & Sarah** also helped me get your chestnuts out of their burs, and **Corry** came for a grafting lesson in March. More thanks to **Eli Lewis** for extensive assistance with routine plot work, as well as the much harder job of cutting trees to help open up a new woodland research plot. We always think of **John Buschmann** when working in the Lesesne; his generosity continues to support maintenance there.

We are often asked how our chestnuts are coming along. The answer to this simple question is rather complex: **Many ACCF chestnuts have expressed blight resistance equal to an original blight survivor, but so far only a handful have demonstrated superior, durable blight control.** However, we must wait longer to assess durable blight resistance among the progeny of these best chestnuts because their nut production is recent and/or not yet yielding sufficient numbers. Also, the difference in stresses among chestnuts planted in different environments is likely to cause variations in the durability of manifested blight control among progeny in each breeding family. This is the big reason why we look forward to and depend upon your reports. Thank you all for working on behalf of American chestnut revival.

Respectfully submitted,

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Dedicated to the restoration of American chestnuts