

American Chestnut Cooperators' Foundation

2014 Newsletter

Dear Friends and Cooperating Growers:

GROWER REPORTS:

We received 174 reports this past winter from cooperating growers with a total of 3,332 ACCF chestnuts growing in 33 states and Canada. So far this summer we have received five reports with a total of 73 chestnuts growing.

At mid-July, I am unable to tally chestnut survivors in the Lesesne because the temperature and weeds are too high for me to walk the whole three acres and still get the pressing work done there. In our other plots, we have 559 seedling survivors of all sizes; they represent three generations of breeding, including many big beauties. By estimating probable losses in the Lesesne, from Phytophthora, voles, and/or blight, we guess 300 ACCF seedlings may survive there, also.

Our biggest losses last winter were in National Forest plots, where I transplanted many tiny forest-nursery seedlings, between six and 18 inches tall last November. When I checked in late February, I found nearly all the seedlings had been either completely or partially uprooted; this was the work of hungry squirrels searching for nuts that were not there. Replanting them only saved six. So I have learned the hard way to plant very small seedlings just like we direct-seed nuts: protected by a tree shelter with net covering.

We look forward to your reports, while remembering Virgil L. Downs, who passed away at 93 last year. He planted some of the first chestnuts from Al Dietz's project (Blue Ridge chestnuts collected and irradiated to produce mutations that might favor blight resistance). Thus, his cooperation with our work preceded by several years the incorporation of ACCF in 1985, and all these years he stayed with his project and reported regularly.

HARVEST:

172 cooperating growers planted at least 2,200 seednuts from the 2013 harvest. You may remember that last year's harvest was smaller than usual due to heavy, frequent rains at pollination time. This year's weather has been more conducive to our usual, much bigger harvest. More important, from our point of view, is that large numbers of grafts and seedlings in our breeding orchards will be bearing chestnuts for the first time, while a few others have made first catkins. Although most of the nuts to go out to growers this fall will have the same designations as in past years, many will have different pollinators. Among these new pollinators are four original survivors, six selected first-generation intercrosses, and eight second and third-generation intercrosses.

Volunteers to help at harvest should contact us via email at allaccf@gmail.com We harvest from nine a.m. till noon on weekdays in the second half of September, and sometimes also in early October. Precise dates cannot be fixed until September, when we can better predict on which days help may be needed. Harvest volunteers may take home at least one dog food bag full of chestnut burs and have an actual tour of an ACCF breeding orchard.

NO VIRTUAL TOUR:

This year we omit the virtual tour, because the eight remaining plots are either much smaller or younger than those we have featured in past years, thus they are not yet ready to show off...maybe next year. We have used virtual tours in past newsletters for the purpose of highlighting problems raising American chestnuts in different environments, along with solutions that have worked for us. You may find them archived on our Web site below the current newsletter. This year, instead of a tour, we have made a summary of chestnut-growing problems and solutions, for those who may not have internet access, and others who may prefer to read with paper in hand while sitting in the favorite chair.

PREVENTION IS ALWAYS BEST:

The worst problems may be avoided by careful site selection. Never plant chestnuts in or beside former fruit orchards where voles are almost always well established. The American chestnut thrives in acid, well-drained soils, on sloping lands (the steeper the better), planted in the upper half of the slope/clearing (to avoid frost pockets), and facing north to east to get full morning sun and avoid the drier south and western slopes which are also subject to winter kill (when very warm

afternoons heat up the bark, followed by steep temperature drops at night which crack the bark). Do not plant on flat land or in heavy clay because your chestnuts would always be at high risk for root rot.

If you live in the Piedmont, where *Phytophthora* is widespread, work in your chestnut plot only when it is dry. Do not use ponds for a watering source. Limit or ban vehicular traffic in the plot regardless of weather unless the tires have first been power washed. Soak for two minutes in a 20% clorox solution any tools, gloves, soles of shoes which have been used elsewhere before re-using in the chestnut plot. Growers who do not live in the Piedmont should avoid buying plants from southern nurseries which could introduce *Phytophthora* to your land. Many problems can be avoided or contained by keeping the area inside chestnut protection cages free from weeds, grass, leaves, mulch or other ground covers. All these things invite burrowing rodents, and hide their presence while populations increase. High weeds or mulch may also cover up the first sign of blight, which is usually at the base of a seedling and should be mentioned in your reports.

When seedlings in their first few growing seasons are much too small to usefully express blight resistance, blight may be introduced via insect wounds. Many insects can be controlled by spraying Sevin on the stem and leaves. Where ambrosia beetle and/or gall wasp have been identified nearby, but not yet observed on your chestnuts, an annual treatment in early March with Bayer Advanced tree & shrub can protect the smooth-bark chestnuts smaller than four inches in diameter at breast height (the rough bark of older chestnuts deters ambrosia beetle). If these pests are already in your chestnut planting, Bayer Advanced can control gall wasp.

SIGNS OF STRESS:

The leaves on a thriving American chestnut grow large and turn dark green. Stress is announced by leaves that remain small and do not turn dark green, but stay light green or turn yellow-green. There are many possible causes for stress, requiring a little detective work; we list them in order of difficulty to deal with, beginning with the easiest.

Examine the trunk from all angles for signs of blight. There are pictures on the Blight page of our Web site. If the chestnut showing stress from a blight canker is smaller than 1.5 inches in diameter at chest height (DBH), cut the stem at the base and cover your cut with soil. It should sprout back vigorously. You then choose a stem

to support with plastic ties to a strong stake, or two stakes if the area is exposed to high winds. Remove all other sprouts. The new sprout will grow rapidly for a second chance to grow big enough for an expression of blight resistance (swellings beside and/or around the canker) to control a blight canker. The easiest way to tell that blight is under control: leaves grow large and turn dark green.

A chestnut over 1.5 inches DBH showing stress from blight canker(s) has not inherited blight resistance or else its blight resistance is insufficient for this site. You may cut it down and poison the stump, unless, upon reading the Grafting page of our Web site, you decide to try to take advantage of the large, established root system to graft a blight resistant chestnut scion into a stump sprout the following spring. Virginia growers may contact me via email in January to request a few scions. Because of the gall wasp, we cannot send scions to most states.

If no blight is visible, look for pinholes on the trunk; ambrosia beetle bores holes, lays eggs and the next generation escapes via these holes. If any are found, cut down the tree in one-foot segments and burn it right away, or put the infested wood into double plastic bags to go to the landfill. Next, examine all your other trees, which also may have been attacked but do not yet advertise their stress. If you find more pinholes on good-looking chestnuts, try to kill the beetles by spraying permethrin into the holes. Then, early next March you must treat all your trees with Bayer Advanced tree and shrub to prevent further setbacks. Chestnut stems killed by ambrosia beetle also sprout well from the base, and you can select and protect the best sprout (as above) to give the tree a second chance.

Water small, stressed chestnuts, one gallon for seedlings over three feet tall, or one quart for yearlings a foot tall or shorter no more than once a week. Sometimes they just happen to be in an unfavorable position which does not receive sufficient rain, although others in your planting do, and they may perk right up with regular watering. Otherwise, voles or moles may be at work. Sometimes the stream of water will expose a tunnel. If not, probe the area inside the cage with a good stick. If the stick encounters strong resistance everywhere, tunneling rodents are not the problem. If the stick sinks suddenly in one or more places you have located the tunnels into which you pour the rodent deterrent. Prozap is best; but it is a poisoned bait, thus useful only in plots beyond the hunting range of your cats. In our yard and also our nearest forest plot I use Plantskydd instead, which is supposed to deter by scent and last for one growing season, but it is not as efficient

as poison, so I supplement the treatment by chewing gum when working here and put a wad down any new holes; mothballs may work just as well.

When watering chestnuts shows no benefit or seems to increase their decline, you have a root rot problem which is caused by poorly drained soil inhabited by pathogens which for purposes of growing trees we are unable to control. The recommendation is to start all over in a better planting site that fits the description above.

GRAFTING:

I made 60 new whip grafts, of which 8 are still growing, but one is in poor shape and may not make it. Several other grafts also started very strongly, only to disappoint me. This was a most difficult year because we had two consecutive days in late March when the temperature went down to 20F and did not exceed 28F. I had one graft growing then which died from the shock. After examining the limbs where I had collected scions, I am attributing at least half of the remaining failures to weak scionwood. Some of those branches which looked fine in winter, died of blight this spring; others showed signs of extensive gall wasp damage: many buds, on otherwise healthy limbs, opened partially then died, while other buds which opened completely made distorted leaves from gall wasp. Although treating the grafts with Bayer Advanced insecticide in early March, appears to prevent gall wasps from hatching out, the buds in which its eggs were laid have been ruined for grafting purposes.

67 of my grafts survive; 31 will bear nuts. Most grafts are 'selected' chestnuts, which means they have passed Gary's tests and demonstrated blight resistance: for parent trees, among original survivors whose first blight canker is on record, blight has been under control for up to 33 years; the first-generation, selected intercrosses have had blight under control for at least 10 years. 'Control' means the tree confines blight to the outer bark, or callus surrounds cankers to bypass and finally seal them off; there is no death in the tree's crown, but we see the strong upward growth needed to compete in the forest. Our second-generation grafts have yet to be fully tested; we assume that those making swollen first cankers may have inherited significant blight resistance; in five more years we might be able to claim blight control for them, also.

OUTSTANDING COOPERATORS:

Thanks to **Mark Miller**, USDA-FS, for making and posting signs to deter vandalism in cooperative research National Forest plots visible from the road. We thank the **Mary Moody** Northern Foundation and Virginia Tech for plot maintenance on Salt Pond Mountain, and always remember **John Buschmann** whose generosity continues to support maintenance in the Lesesne. Many thanks to **Carol Croy, Marilyn Meador, Bill Valentine, Jim Shaeffer, Jane & Jim Reilly, Mark & Lynette Castator** for volunteer harvest help. Special thanks to **Corry Shaffer** and his fiancé who helped remove chestnuts from bags full of burs, then picked many high burs which no one else had been able to reach.

Many hands may not always make the work light, but certainly they make the biggest jobs possible. We thank you all for working on behalf of American chestnut revival and look forward to your reports.

Respectfully submitted

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Other ACCF Directors

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Dedicated to the restoration of American chestnuts