Annual Meeting Minutes MATACF 2007

Business Meeting 10:30 am

Board members present: 11/18/07

Brad Smith, Yvonne Federowicz, Kathy Desjardin, Jamie Donald, Rufin van Bossuyt, Rich Hoffman, John Mirick, Guy Shephard, Jim Garland, Mike Meixsell, Mike Novack, Charlotte Zampini

Minutes:

Annual Elections were held
10:35 am

Everyone was reelected/elected

Annual Business Meeting was ended, 10:50 am

11:10 am National Meeting Update

Board Meetings
BC3 F3 1800 nuts at MV, 171 in PA
Distribution for nuts - policy under debate
Some are promised to National Forest Service

We are a few years away

Demonstration orchards: we won't need as many soon - Sarah tries to give a potpourri of types am/chin/f1/bc3/bc3f2/jap/euro

Regional growers meeting instead of a national one - our New England one worked well. New England might have similar issues

Internship Committee Report: nice way of hiring interns nationally (it was difficult for us to do it locally.)

Volunteer Labor = $18.77/hour to the IRS - Georgia had to figure this out. Uncertain legal reason, we can research.

Development Cabinet Meeting
What to name our product? Trademark better than Patent
Patents have to be renewed. TM the leaf, then what do we call.

"Foundation Chestnut" is name being worked with for now

Might be further TMed for chapters

TACF 25th Anniversary Appalachian Trail Walk: publicity events. MA going to do one.

Workshops

Inc. Ink Disease: people have to screen for resistance to this in the South, we might need to eventually

Tour of Shelburne Farms

Rufin: 50% of initial nuts going to Forest Service

Genomics Study of Fagacae family - will help chestnut work

Replanting of mine spoil lands - to get trees to grow, need minimal compaction. Chestnut thrives in those conditions. Good aeration, grows twice as fast as oaks.

Questions as to whether we should be involved. However, we aren't causing the mining. Research trip to China. Look for other sources of resistance in Chinese chestnut.

Planting trees from regions planted out of their range. Cold-hardiness, time of bud-break. We will have some in MA.

Susan's book: early work on blight. Some chestnuts in Ohio cut down for a parking lot.

Levels of resistance: not as good as expected. Genes are there, but chromosome can get broken and switched around. Combination not working correctly.

QUabbin might get nuts or seedlings

Paul Winter - soprano sax - gets responses from animals.

Science presentations: New York saves lots of American ttrees, crosses AxA a lot. Doing gene transplantation.

Song Fei, Mammoth Cave. Someone had done a chestnut survey. Modeled where to plant.

Bill McKibben.

MATACF Update

2007 Orchard Report

We are winding down with our planting

Westerly,, RI
Lancaster, MA
2 additional lines in Quabbin
Losses high because of drought
Irrigation not possible in some orchards

Established orchards are doing well!
After 2-3 years, growth rate takes off
Inoculations underway
Tower Hill done this year
Wrentham, Lincoln, Wayland are possible next spring

Focus will be shifting to care for the trees, getting root systems well in, grow quickly. Deer protection, water

Outtlook for 2008: We have nough Clapper and Graves. Got F1s and 1 Nanking in. F1 nuts sent to a nursery to improve germination, growth rates.

Wrentham older trees survived fine, early years toughest. Fertilizing sometimes an issue.

Low maintenance pruning for single straight trunks. "Pinch all buds competing with dominant leader" - Fred Hebard.
Jamie has done this, the leader takes off and you get a nice straight tree. Not bushy. Don't have to worry about diameter.

Charlotte: need to organize group work at orchards to take care of them and compare trees from site to site.

Sandy: even with shoots, you can tell if it's going to go into a bush or dominant leader form. People agreed.

Inoculation: Tower Hill this last summer - Leila Pinchot

Backcrosses will be moderately resistant at best. Inoculation described. Two strengths of fungus used.

Inoculation. Then hyphae (fungus roots) form. Tree then forms lignified zone, stops hyphae. Wound peridem formation around. Mycelial fan forms from multiple hyphae. After about 1 month, beak through lignified zone. With resistant tree, either can't get through or does so much slower.

If gets out completely, rated a 5. If pokes out, 3.5. If within lesion, 3.

Rating each site varies somewhat since conditions differ.

We will need to begin to weed out trees that don't rate well; also, we will need to breed trees soon since all have aggressive blight in them.

MATACF Special Projects

Frank Howard has made a donation to help with inoculations next year.

Membership activities:
Brad working on Seedlings newsletter
Big E Presence
Numerous presentation
Planting days
Weeding days less popular
Excellent website
Press: Christian Science Monitor - numerous other papers called

Chapter Health
400+ members (peak at 450)
Financially stable; income and expenditures equal
New Blood (President and VP)
Leila Pinchot (NERBC) - a great research

19 Board Members

4 Quarterly Board Meetings
We need more people to help do things

Lunch

Forest planting experiments
Bruce: used tool that was successful with acorns
Took only about 1 hour to do 50 nuts in each area

Bruce went back in July -
Jamie in August - 18/150 mostly in high area but low section where more moisture

Could have been predation

He also planted behind his house. Area had been 3 yrs previously harvested. Groundcover had blackberry etc. very little deer browsing. Might be better. Deer could see these ones very easily. Behind his house, he used larger tree shelters. Got better survival; denser forest - 88% survival in some shelters.

He also planted some of Leila's 6-ft 1-yr seedlings from TN; these survived quite well (2/3) and had decent root systems.

Nursery in Georgia - contracted seedling production; came to Dr. Sandy. ALways root prunes when lifts them.

Bruce puts mesh on top to keep birds out.

Yvonne's talk (Powerpoint available online)

Sandy's talk

CT Ag station had been working on chestnut woodlots before blight

She has worked a lot on Hypovirulence

Known in CT as "The Chestnut Lady"

Has worked on different diseases as well

THey have many records from all over state. Has been there since 1875. has farmland, will soon have nursery. Chestnut plantings in forests all over state.

Chinese chestnut gets around 60 ft. Ozark chink also gets abou 60 ft. Allegheyny much smaller. Dwarf chinese much smaller.

In New England, trees got around 80 feet tall. In Scotland, CT got a 27dbh tree 103 yrs old.

Americans produce nuts at ends of branches, right out in sun. Not like apple trees. Terminal

fruiters. Leaves thin and paper.

Allegheny chinquapin has single nuts in each burr. Can cross with everything else. Burrs on little spurrs that branch grows past after flowering.

Leaves densely hairy on lower side. Ozark chinq also has spurrs on little branches but rarely more than 2, branches grow after flowers. Chinqs both have spurr flowers that branches leaf past and keep growing.

Florida chinq does very poorly in CT.

European chestnuts started being planted after settler arrival. Castanea sativa. Morrona may be European-Asian hybrids. Almost always grafted on European rootstocks. Straight at base where joins petiole. Buds more rounded. Lots of leaf hairs.

Japanese chestnut: large one on grounds of house built by PT Barnum in CT.

Has spines along edges.

Dwarf Chinese sguini flowers continuously. Smallish leaves with lots of glands.

Chinese trees not imported until after Boxer rebellion. Theni plant explorers descended upon China.

Chinese Chinquapin Castanea Henryi - willow-leaf chestnut - delicate twigs.

Chestnut blight. Possibly brought in on grafted trees after initial seeds brought in. 1882 some brought in in NJ - 1000 grafted trees. Large nuts were attractive. Everyone wanted one. People were buying Japanese chestnuts. Often had chestnut blight. Usually doesn't cause serious damage.

European trees.

People tested the blight fungus on trees by scientists who brought in from Japan and CHina and released multiple varieties.

Spread by people planting trees and creatures as well.

Arthur Graves 1879-1962 decided to start a breeding program. Started planting trees he got from the USDA. Property turned over to state, is now part of chestnut plantation.

He planted Asian-American crosses out in CT. Backcrossed Asian_american crosses back into other Asians.

In 1972 Sandy got hypovirulent strains from Europe, tried in forest and orchard. Got letters from Charles Burnham. He said should do backcross breeding. Changed back over to that ever since. She can keep Americans alive with hypovirulence. It needs to be established in a popn to successfully keep trees alive.

Grafts of Clapper tree also used. Fred made crosses from Clapper from pollen parents. drove up put bags on, went back to VA. Did that for many years until Meadowview built up.

Hypovirulence doesn't save every single tree. Americans:
51% die back to ground.
33% die back once, then do fine. Cankered from base up.

16% never die back, have lots of hypovirulent cankers, do ok.

Usually if surrounding trees getting mature, competition for light will kill the chestnuts since stress is too much. European virus best. Fungus has at least 240 strains. Virus doesn't easily spread. Genetics of fungus plays important role.

Sandra has concentrated on using hypovirulence to keep Americans alive long enough to use in breeding program.

Sandra thinks windborne spores unlikely to hit trees due to physics. Thinks animals, people spread most. - splash dispersed -

Different species of the virus in Asia, Europe. Viruses in US mostly in south. Tend not to be very effective in stopping expansion of blight. Virologists working on.

This process of breeding with bags etc. was started in 1930s by Arthur Graves. In 1983 Sandra started backcross.

About 1500 mature chestnut trees now. Countless hybrids have been sent around the world. New pests and pathogens appear, make old trees valuable.

Clapper and Graves are both MollissimaxDentataxDentata. Planted in 1954 at Sleeping Giant.

In 1920 people decided that European and American chestnuts were different species. Hybrids may have been used as Americans in early crosses. Now we have ways to tell apart. Sandra uses New England trees, wants one that leaf out late, flower later.

BC1. Looks American.
All f1s intermediate in resistance.

Might have reasons for choosing less than perfect trees - leafs out in northern Maine, for instance.

She finds that her her Japanese hybrids work a bit better than Chinese. Most of her trees' resistance comes from Japanese. Has BC3 trees.

She has very little trouble crossing Japanese OR Chinese with Americans. We get very little germination.

SHe has a greenhouse, good conditions. Nurseries.

Jamie mentioned starting in pots in the sun indoors. Had abysmal luck in best of conditions. jamie mentioned that PA averages are more like ours - 25% germination.

Richard Janes in 1959 thesis - showed you can cross in both directions between all species, get good germination.

Good apical dominance.

Wants to plant trees in clear-cuts in CT forests. Treats native chestnuts with hypovirulence. Wants to keep Americans alive. Next generation will be intermediate in resistance, but the hypovirulence will help them. Monitors growth of the trees, monitors natural crossing.

Select superior orchard trees from their cultivar crosses, tests nuts for nutrients to find better "food quality".

Arthur Graves adament in selecting orchard trees for CT that could survive also wanted good orchard trees. Good orchard trees for nuts - early nuts, good yield.

Magazines are now touting value of nuts in peoples' diets.

Next generation of things will be this. Only about 4 people doing that research.

Sandy does:
Ink disease
Blight
Oriental chestnut gall wasp
chestnut weevil

Ink disease bad in Portugal, other parts of Europe. Is now not a fungus: is an "organism" - can't survive our winter here yet.

Gall wasp all thru TN, outbreak in OH.

Weevils: big problem if selling nuts.

New problems: Codling moth, Ramorum Blight. Sandra works on timber and orchard trees for the benefit of the state of CT. Codling moth will arrive...

Sudden Oak Death - brought in to CT, was successfully quarantined.

Blight isn't in Germany or England. European chestnut not as winter-hardy as Americans. Similar rot-resistance. Not as good for lumber. Have "ring shake" - wood separates at growth ring. If large, not useable for lumber.

Species definitions... In 1974 some taxonomists decided that all chinqapins same spp.

Sandra would rather take more time and plant a bigger tree, then know that it would more likely survive.

List of cultivars for trees. Japanese-European is common. In U.S. "Colossal" is one.

Had 12 strains of fungus in 70 trees. Lots of strains - fungus crosses, developes new strains - has 7 genes. Have to sample cankers, grow fungus, see genetics, grow hypovirulence to transfer, then grow that, do inoculations. Need to treat each canker for at least 4 years to get virus established, then it takes off on own.

Has noticed surviving native trees near her inoculations.

Chinese ~60ft, Japanese 50ft

Michigan people didn't want to use European strains, blight was already everywhere. Now have some interesting data - can't save many trees, are doing intensive inoculations. Might save some trees. Have gotten more logical. Data very interesting - can only save part of stand though. A forest with hundred small trees - not all can survive.

Ozark chinq - Sandy has some, mostly from OK. Is crossbreeding to get resistance into it. Justification: it's resistant to gall wasp.

Sandra has cards - where imported chestnuts were sent.

3:30 people went on tour of Tower Hill Orchard.