

MA/RI-TACF Summer Quarterly Meeting

7/25/2020

(Held Remotely as a Zoom Meeting)

Present: Gray Curtis, Gary Jacob, Paul Wetzel, Mike Novack, Brian Clark, Karen Jones, Tim Seale, Rufin Van Bossuyt, John Meiklejohn, Kendra Collins, Jamie Donalds, Yvonne Federowicz, Brian McClain, Joshua Soojian, Rich Hoffman, Mark Meehl, Dave Lent, Michael Grames, Kathy Desjardin, Douglas Miner , Mike Meixsell,

8:05 am

Introductions:

Douglas Miner: Sandisfield, MA -- seed orchard in process. Water, etc.

Treasurer's Report: Paul Wetzel

Revenues less than expenses this quarter

Active growing season!

Manton Grant reimbursements not in total yet though

Email problem at National: most relevant for Paul Wetzel.

Some expenses are not going through; please CC Kendra whenever emailing National re. Expense issues.

Please use the Expense Form that Paul Wetzel has sent, to submit receipts.

Get orchard-related expenses in to Paul so we can submit against Manton.

Questions from Karen:

1.) What does liability insurance cover: policy is re. Liability for Board Members. (Jamie) Karen and Brian would like to see it. Kathy D. has copies.

2.) Sanitary facilities at orchards -- "Sani-can" -- Karen would like there to be a discussion at some point. Karen will write up a description and share with the Board.

South Kingstown orchard has had a porta john most years that we contributed toward (2020 we did not due to sanitary concerns during pandemic) --YF

Jamie: Action Item -- will distribute electronic copy of insurance to all Board Members

Secretary Report: Kathy Desjardin

Kathy had tech problems so does not have full report

New members regularly!

Eric Harris mowing regularly at Westboro Orchard

Reach out to Kathy if you need volunteers and she'll coordinate communications.

MA and RI Environmental Conservation group memberships up for renewal
Current MA/RI

We could put more energy into reaching out with information for these groups re. Our activities

We could mail them a copy of our newest brochure

New password for Chapter Resources of National Website

Please send Kathy updates if you have changes to your contact information.

Passing of Nelson Calkins, a founding member of our Chapter: Kathy sent a letter of condolence to Mary. Family would like a blight-resistant chestnut seed to plant in his Biotree Urn. www.passagesinternational.com/biotree

Kendra: Lisa Collins will be involved in sending out seed

Chestnut bees (*Andrena rehni*)

This species - Andrena rehni are and were pollinators for chestnut. Michael Veit and colleagues are working on a paper concerning bees in Massachusetts and feel this may be a worthy addition. There have been no records of the bee in Massachusetts for over 45 years.

They went to Mount Ella accompanied by Jesse Greene and found it there.

Kendra: VT researchers are also interested; people out in the field right now looking for this bee!

Kathy -- Follow up has generated much interest and will continue next year

Jesse Greene is interested in collaborating on this for his classes.

Kendra: CT Ag

Yvonne: RI pollinator researchers could be interested; URI Master Gardeners involved

Kathy will CC the info to all us

Peter Sullivan -- 1830s home -- Kathy spoke to regarding potential large American chestnut tree

Mark & Dave went out to Sandra's house in Sudbury - new housing development. Common place to see blooming chestnuts! They could get her seedlings (American)

Kathy will follow up on the membership list,,this helps spread the word!

Alex Burnett from Groton Conservation Commission -- interested in planting on Commission Land -- have a clearing that could take in chestnuts

They would like "hybrid trees" -- need GPA for TACF trees.

Jamie suggests GCO there - Mark Meehl will follow up

John Meiklejohn -- gave a virtual presentation for the Storrs Library in Longmeadow, it turned out to be a success and we received a donation.

Communications Report Yvonne

MOTION to approve minutes

Approved unanimously

MOTION approve Kathy Desjardin version of Spring Minutes

Approved unanimously

YF read an email from Jesse Greene -- He can give updates on Tantasqua and Monson Flynt Park, what format would we like?

Breeding Report (Michael Novack)

Mike Novack -- has a presentation in the works; no feedback yet from Kendra; Jared said go ahead with report

Recessive chestnut genes -- chance that these are lost in population is small

We have a lot more American diversity than Chinese diversity in our population.

Michael can send the preliminary report to anyone -- not quite ready for sending to Board

Now that we know Chinese have a lot of resistance genes, we know most of our hybrids have less Chinese

Brian: second purpose of F1s as a new source of resistance

Offspring of F1 x BC3F(x) -- more than half Chinese

Rich Hoffman: issues re. Standard TACF breeding program. Spreading of virulent blight strains a problem. Rich has F1s -- has let them get infected by local blight. He is evaluating resistance of F1s, sees a clear spectrum. Rich thinks the "recessive" genes have been lost in many cases. Mentions that a different approach could capture more of resistance from Chinese. Need an additional step to see recessives.

Solution: inner crosses between F1s? Need additional step to capture

We didn't do; we have BC3s that are pretty good though.

Rich suggests we not bore holes in the trees, he lets native blight infect them -- don't have to worry about it, it happens. Orange dots on lenticels appear first in a horizontal line. Takes a while for blight to infect more. Huge number of dots then. Smooth bark tends to stay ok but cracked bark lets blight into cambium layer. He has done experiments with trees.

Rich thinks the bark splitting process (growth of inner layer higher than outer?) is what lets blight in the most.

He found that slowing growth rate of stems helped stop cracking process, kept blight down -- all his resprout stems in that experimental group are still fine.

Michael N. commented: bark issues might need to be at level of natural selection. Agreed (partially?) re. The recessive genes.

Kendra: genes are dominant/recessive, Jared still working on that though.

Many genes though just in Clapper. Some regions are more dominant or more "major" -- there might be a difference. We might want to re-introduce any missing ones!

We need a standardized way to compare trees though. We need a "pretty good wound" to get a standardized wound.

Brian -- most mother trees are relatively large, survived ? might have unusually good "bark resistance".

Kendra: assumption is that we need to get blight resistance before worrying about other issues.

Rich has remarks: yes, using standardized fungus, broadcasting through natural range of chestnut. But are there different needs for different blight types?

Recessive genes might be just as effective as dominant, just might need 2 copies.

Michael said - at a population level, we will have some of those recessive genes.

Rich -- by 3rd backcross, we've lost maybe 94% of recessive alleles.

SUMMARY: If we go to the F1s, intercross them, we will have maximum number of recessive genes in progeny -- best way to find out whether we have that issue going on.

Michael and Rich will share information. Michael suggests that over large number of trees, it's very unlikely that allele lost in all of them.

YF commented in minutes -- but what about a "bottleneck" at one generation, Michael?

Burnham plan -- we should have done intercross at each generation, given that we have lots of genes.

---- Coffee Break ----

Events during COVID --

Not many reported

Updates: Gray Curtis

Museum collaboration -- the Museum has events on hold

Transplanting of seedlings into Scraggy Neck will be Sept. 26, 2020. Contact Gray if you would like to attend. Gray to contact Brian re other seed issues

½ acre per year! Does not take long to do.

Orchard News Brian Clark

Seedling Inventory

About 600 from 2019

3K F2s potted up from 2019, 2018 nuts

9 lines of Graves

8 lines of Clapper

Chinese, American (Mark's), F1 controls

For Norfork, Westboro, Granville

50-60 F3s, also F4s from Meadowview

Planting

Weston (2 block Clapper seed orchard)

2 new Graves plots added to block 1

Direct nut planting

Norfork County Ag (Graves Seed Orchard)

Total loss of 8 plots, voles, then wind damage)

Replanted 200 seedlings in 2 plots

Completed irrigation for all 8

Seedlings for several more plots for students

Granville (Graves Seed Orchard)

About 100 replacements for the two 2019 plots

2 new Graves plots (seedlings)

2 new Clapper plots (seedlings)

Westboro (2 block Clapper Seed Orchard)

Parking lot runoff diversion ditch completed

Complete assessment of older plots (28)

Tubes and fabric removed from over 3K

Hope to plant seedlings in late summer

Nearly full replants of 5 plots, 1 new plot

SKLT (Seed Orchard)

URI Master Gardeners continuing to mow very well.

Redid the irrigation tubing after significant damage by canine

Redoing pump right now, possible well going into site

Tubes removed from approx. 14 plots. Don't wait too long!

Invasives removal

Ray Diaz did excellent job on this!

Should fabric come up, and when? Voles -- if no voles, easier to mow with no fabric

John M -- fertilizing easier with no fabric

Kendra -- whatever is easiest for your management

Inoculation activity

Pittsfield Springside

4 plots done in 2019 (SG)

5 plots done 2020 (SG)

Smith MacLiesh

3 plots done in 2018 (SG), Weakly in 2020

5 more plots with SG in 2020

Weston

8 plots in block 1 with SG

Hawley Nanking Breeding Orchard

4 lines of Nanking with SG and Weekly

Blight Strain Review

SG 123 least virulent

WEEKLY middle virulence

EP155 most virulent

Weekly might kill trees more slowly than EP155; EP causes very bad cankers. But Weekly can help us differentiate trees' resistance too, hopefully without killing our selections!

Brian had inoculant available -- utilized great volunteer! - inoculated 4 lines of Nanking with SG and Weekly. Only had a few plates of Weekly, and may not have been good inoculant.

Pollinations

Male sterile F1s

Pollen from Upton State Forest timber form Chinese

Canton/Pakeen large American, 50 bags

Outstanding Selected Backcross Trees

Princeton's Westwood WW5563 pollen (Graves) to Lincoln's Chelmsford CF1367 (Clapper) 60 bags

Weston's Sudbury/Pantry SP809 (Graves) to Wayland's Foxboro FB284 (Clapper)

- crosses of both are all very nice trees from BC program; some of our nicest; healthy main stems

Fred and Paul Sisco have mentioned these are very good lines, we are trying to use best available info and trees

Mark and Dave looked at Windsor tree. It has a canker now.

Genotyping data for BC Selections

There are still trees we don't have data for from our orchards

Seems to confirm phenotypical testing that highly genotypic American trees don't do as well with phenotypic test

Cannot always rely on pheno or geno alone?

Jared sent out info to prioritize

Jared working on phenotyping "score" to help us

Kendra: getting phenotypes taken for rest of breeding orchards

She can only travel to "green counties" per state of VT. List (Covid-related) changes every week.

Parts of MA are not approved currently.

Ratings -- we want to have this done between now and the fall. Percent canopy is crucial so needs to be before the fall.

Kendra may have to camp during her tree rating trips due to Covid. There were discussions re which orchards she can get to, when.

Kendra: if we can create F1s directly on Chinese trees in field, saves having to grow up the Chinese nuts.

Our Chinese trees in orchards -- we might want to make crosses on those too

Upton Chinese trees -- get seeds from taller ones?

Freeze pollen from trees for use next year

Doug -- new seed orchard. Mortgage issues; need to buy out the mortgage. Easements not able to be in place by fall. Can they do something before easement granted? Lots of excitement in the area. Sandisfield TACF members, etc. They would love to start planting this fall at least partly. Brian would love to have some more trees in the ground. 1-year-old trees.

Can we get these trees in the ground this fall? Have a MOU for Doug? Use electric fence?

Risks to Chapter: easement not available? (Access to land). He cannot give us property-related guarantees.

Doug is running water out there, road access. Can Brian get Doug trees? Needs GPA. Then trees available for Doug in spring. Is there deer pressure?

Goals:

They will get GPA signed, get materials to Doug

Doug will give Brian dimensions re. Electric fence. 1 acre. Not high deer pressure, Doug speculates.

Brian and Doug will work on issues.

Bitrex products -- Treeguard

A few trees in the ground -- good for Doug's group

Put mothballs in ground cover against voles?

MOTION: approve up to \$2000 for electric fence materials for Sandisfield Seed Orchard.

Approved unanimously

Mark Meehl: possible GCO in Lincoln, MA

Well looks serviceable. Has a walking path near it. 2 acres. Clover planted. Could put in about 100 trees and get about half field planted. Flint family farm nearby is historical, people are very welcoming to Mark and Dave. Very nice neighbors. Land has been fallow for a few years. Vines and dead grapes all cleared away now. Lots of mowing work.

Mark showed an aerial view; sections. Brian M. and Mark went out. 20 foot spacing would give 14 lines of 6 trees each. Talking about putting transgenic trees in; the local people are ok with 3BUR.

They gave a standard agricultural agreement; requires liability insurance but also other insurances? Rental fee.

Board members

GCO Germplasm Conservation Orchard

Mark would be the main responsible person

Jamie: Chapter cannot take on renting land

Yvonne: Chapter is not agreeing on transgenic tree planting on any orchards associated with this at this point

Mark: 3-year lease, 5-year renewal

Brian: understands precedent bad but seems a minor expense

Karen: might National make this agreement? Can someone else sign?

Kendra -- main office might not want to since we are separate 501-C-3.

Liability insurance is stipulated with the Town. So Mark cannot do this on his own.

MOTION: John M. that we approve the \$80 for initial 3-year agreement for the Lincoln GCO but before any agreement is signed, we will do due diligence to investigate legal and insurance-related issues for our Chapter.

Rich Hoffman: There is a trail next to this site, would our liability insurance go way up based on us having trees there?

Michael N. -- Recreational use of land is protected in MA. People using land recreationally cannot hold landowners responsible.

Brian: -- Chapter not ready to sign.

Michael -- Chapter not agreeing to put in trees that are GMO.

Yvonne -- We should talk to our Insurance provider about this situation.

Action Item: Jamie will take on the insurance discussion. Mark will provide Jamie the exact legal requirements that the Town of Lincoln needs so Jamie can show that to our insurance people.

There is stuff in Lincoln agreement that they need to delete re. Worker's Comp etc.

They need to change their written proposal to us.

Karen: letter for Lisa Collins: Karen will be in touch with Lisa.

Upcoming Meetings:

Fall Meeting:

Sunday Oct 18th Fall Meeting ZOOM 9-1

Annual Meeting:

Possibilities -- The chestnut bee? Jesse Greene?

Volunteer of the Year 2019

Tim Seale was Volunteer of Year last year but could not attend our Annual Meeting to receive his Award

Jamie thanked Tim for his wonderful work at Norfork, getting orchard started.
The Board thanks Tim!

Brian McClain -- Harvard GCO is doing well. Has same issue with mowing. Would like to buy a used mower.

Jamie: Brush hog rentals can work initially.

John M.: Nomination Process for Board. 16 Board members and 3 openings. Several names mentioned so far. John may be in touch.