

MA/RI-TACF Winter Quarterly Meeting Minutes

1/30/2021 Held online via Zoom, Recorded

Present:

Board: Jamie Donalds, Brian Clark, Yvonne Federowicz, Paul Wetzel, Brad Smith, Gray Curtis, Bill Davis, Kathy Desjardin, Rufin VanBossuyt, John Meiklejohn, Michael Grames, Michael Novack, Rich Hoffman, Karen Jones, Joshua Soojian

Guests: Edmund Crouteau, Thomas Bertorelli, **Kendra Collins, Mini Kendra Collins**, Mark Meehl, Dave Lent, Tim Seale, Jared Westbrook, (later) Josh Meyer, Rachel Cole

9AM - WELCOME - Introduction of members and welcoming of guests –

“What brings you here today?”

Jamie Donalds

Everyone introduced themselves.

Guests:

Thomas Bertorelli -- member, and is doing his PhD dissertation on restoring the American Chestnut

Edmund Croteau -- Burrillville Land Trust, RI, new URI Master Gardeners

Kendra Collins -- Science Coordinator for NE

Tim Seale -- greeted all via Zoom Chat

Later arrivals:

Jared Westbrook, Josh Meyer, Rachel Cole

TREASURER’S REPORT:

Paul Wetzel

Paul presented the 2020 Annual totals and each 2020 Quarter

Manton Grant has been fully utilized

Our revenues are higher than expenses

Annual Meeting speaker’s honorarium went to a nonprofit

There formerly were two accounts; savings and checking; Paul eliminated the savings and merged. The interest was well under 1%.

Fixed assets: items owned by the Chapter such as tractors, etc.

These affect our revenues and expenses; we did not count them as expenses when bought, so we need to depreciate them over 4 years to stay with our policy.

It is not just about paying taxes, it is about what year the items count as an expense (¼ comes off each year.)

We want the expenses to remain more even sometimes; a large purchase like a tractor etc.

If we change the policy, we need to “write off” all the older items at once.

We did not add new items but still have the older ones to deal with.

ACTION ITEM: Discussion about depreciating fixed assets over 4 years is tabled, and will be discussed at next meeting.

MOTION: Accept the Treasurer's Report

Discussion:

Passes unanimously

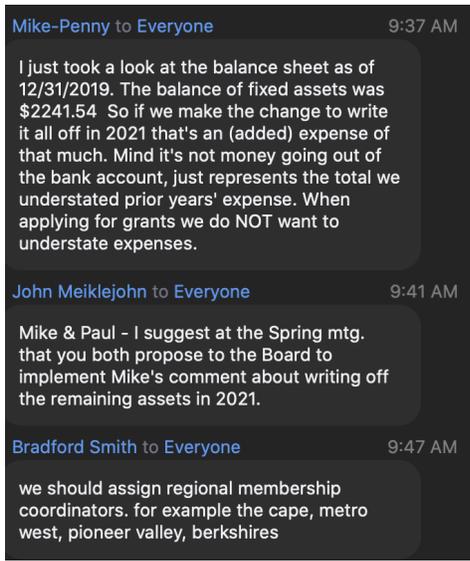
From Zoom Chat: Comment by Mike Novack on fixed asset depreciation

Mike Novack:

I just took a look at the balance sheet as of 12/31/2019. The balance of fixed assets was \$2241.54. So if we make the change to write it all off in 2021 that's an (added) expense of that much. Mind it's not money going out of the bank account, just represents the total we understated prior years' expense. When applying for grants we do NOT want to understate expenses.

John M.: Mike & Paul -- I suggest at the Spring mtg. That you both propose to the Board to implement Mike's comment about writing off the remaining assets in 2021.

ACTION ITEM: per other comments: we would investigate the pros and cons of ceasing depreciating fixed assets for next meeting.



SECRETARY'S REPORT: Kathy Desjardin

Our membership is stable! 303

Kathy sent out a new Board Contact list

We have a password-protected Board page on our website

Executive Committee meeting -- Bill Davis agreed to coordinate our interns

We have

Walter Bickford in Berlin MA. Nice non-blighted chestnut.

Pike in N.Andover, we have used for crosses. Was a 60 foot tree. 18" DBH. Will quarter-saw into planks, will offer some to National, some to us. Jules has asked him to do article. Progeny of tree is in several orchards.

Windsor Tree has a blight canker up about 30 feet up...

Kathy forwards RI contacts to Yvonne

Give everyone opportunity to join us in planting etc.

H. Souza in Boxford, MA is interested in planting a GCO.

Ken and Henry in Cape Cod -- Mark to follow up with.

Falmouth tree may be European -- Rufin.

Orleans communication.

Burrillville Land Trust -- Edmund present today -- we got a historical article about Vock property, with the Vock idea that blight was related to electricity!

Brad: we need to have regional contacts; local participation gets people involved

ACTION ITEM: Kathy to send Gray the Cape Cod members and interested folks, to do more outreach with. Rufin has info re. Cape trees to go see

Karen has been volunteered to be the Pioneer Valley Coordinator

MOTION to accept Secretary's Report

Accepted Unanimously

Jared Westbrook Introduction

He is moving out to Chapters -- selecting trees with PRR resistance, looking forward to talking to us. He wants to support us in our projects

COMMUNICATION REPORT:

Yvonne Federowicz

-Vote to accept Autumn and Annual meeting minutes

MOTION Autumn

MOTION Annual

Accepted unanimously

- YouTube -- thank you to Brad for trying to get our account! -- no response
We need a longer than 15 minute limit on videos

TACF Social Media policy for staff, no political items should be in there for instance -- best practices.

If we need help ask Jules

- Google Groups for Orchard, other?

Reminder that Pollinator Researchers will be interested in working with us, including the Interns

--

YF placed link to S.Droege talk in Zoom Chat (currently in a Google Drive personal account, not ideal; we will continue working on our YouTube Chapter account)

MOTION to accept accept Comm Report
Unanimous

SCIENTIFIC PLANNING REPORT:

Michael Novack

-Summary of annual meeting presentation, and next steps.

(Please fill in this section)

-Chapter genotyping and selection predictions

Jared Westbrook

Jared Westbrook; sharing screen

Advancing Breeding Program for American chestnut restoration

Idea is to increase our outplantings of our current materials, with hybrid trees. We need to strongly communicate that these are partially resistant trees.

Jared is in favor of getting more trees out there!

Involving more people to make them citizen scientists!

Should we get rid of the GPA? Discussions ongoing

Is half-resistance success or failure?

The task at hand is so huge

Jared:

Selecting the 1% in chestnut Meadowview Seed Orchards

Approx 2K of 36K planted since 2002 still there

Virtual Tour of seed orchard selections

Different % American shown. One with 83% shown, cankers healing.

67%--93+% shown... appearance not totally correlated
Pseudo-F1s tend to be the most resistant in our main breeding program
68%, 43%, 42% American
(These were progeny of Backcross program trees with a Chinese, accidentally)

The tallest trees are the ones with resistance! Not the most American. Some more Chinese trees are more branchy but it is hard to see.

We don't have the full Chinese-type resistance.
...because there are so many areas in so many chromosomes in Chinese that are associated with blight resistance

Deficiency of Chinese homozygosity at BCxF2 may contribute to lower than expected blight resistance

We don't often see homozygous Chinese in those areas very often.
All F1s are like that.
Is it inbreeding-related?

Immediate task: in Chapters, go back and more stringently select the best BC parents using both genotype and phenotype data to get most blight resistance BC3 and NC4 parents
Intercross subset of parents inferred to have moderate resistance

Decide what to do with parents or progeny with low resistance

Blight resistance assessed 2+ years after inoculation probably most reliable measure of long-term fitness
→> Main stem alive, cankers > 15cm, cankers sunken, exposed wood, sporulation

Jared uses an "index" composed of several related factors

Also the correlations between "parent" and "kid" resistance

Survival of progeny in SSAs more weakly correlated with parent resistance scores and progeny resistance in field trials

Progeny testing is a huge task, too slow for us

Am chestnut ancestry in MARI hybrids

They have genotyped 101 BC3s, 33BC4s, 28 MARI trees pending

Graves are a little shifted toward Chinese
Graves tree not a BC1! It is a F1!

We are using BC2s in some of our Graves orchards then.
41 BC3/BC4s have 95% American chestnut and are suspect as having low resistance
What does Chapter want to do with lines with low resistance? Cross with Darlings to save

diversity?

What do do with progeny in seed orchards if parents have low resistance? Inoculate a few and confirm that these have low resistance?

If we find that some have high, then inoculate as usual

If confirm low, mow most or all?

How much will recurrent selection help

SSAs -- gains in long-term resistance from using alternative SSAs predicted to be modest

How much gain -- working on calculation

rGEBV =theoretical correlation between genomic estimated breeding values and true long-term resistance

Outcrossing Transgenic blight-tolerant American chestnut an efficient method to rescue genetic diversity

Easier to get more American genome faster

Cannot test long-term resistance of trees, currently testing long-term resistance

Can accelerate the breeding. Other tech used in labs to accelerate breeding.

Can move through generations faster!

Ecological studies of transgenic American chestnut for regulatory review

Bees, etc. ok with transgenic

70% of comments positive in Aphis review

Combining blight and PRR resistance

Inoculated BC seedlings

13-14 trees resistant to PRR

Will screen more families this year

Might consider crossing BC Darlings with PRR-resistant BC MA/RI trees

MA/RI predicted to be highly suitable habitat for American chestnut even with severe climate change

We might consider moving S germplasm to the north, including MA/RI

PRR, climate change... we need to use all the toolbox tools

Huge area -- we need to try it all

Scale of challenge is so huge, we need to get our stuff out even if it is partial

We might be like Tennessee, relative to the full range, for Chestnut in 2100

Rich: can we get PP?

Jared -- he will give the PowerPoint to us with these charts etc

Any orchard can be a source of seed

With genotyping, we can pick the best parents

F2s heterozygous? WHY? -- Brian

Jared -- we got mosaic inheritance (when selecting at BC3F1) -- different blight-resistance parts inherited at BC3F1 then none are homozygous at BC3F2

Could be that homozygosity is causing trouble since inbreeding

We might need a lot more Chinese

No real reason to keep Clapper and Graves separate now

Is there an additive effect with crossing Clapper and Graves?

Jared wants to revisit. The analyses are very complicated. Which lines of each?

Lots of experiments

VA trees... what is effect of ancestry over time

Lots of data available...

Crosses with trans trees... diff Am parents... in common gardens, planted in 3 locs north to south

How durable is the resistance short term

PRR (Ink Disease)

Cheap method for genotyping for PRR -- difficult to use traditional breeding to do both, but we have Graves lines with predicted/confirmed PRR resistant

Cross those with our most resistant trees in Clapper or Graves

OR

Use DNA markers predict PRR resistance... DNA helps with that

Do we want to make some of those crosses? They can incorporate our trees in their genotyping pipeline

In one trial... OxO trees -- evaluated as seedlings; all were killed, did better than hybrids but not as good as Chinese?

Hoffman -- OxO gene wheat plant fungus resistance hasn't broken down but
Jared: there are some pathogens that specialize on feeding on living tissue
Plant cell recognizes invasions; mutation lets pathogen evade that

Cryphonectria blasts away, kills, feeds
Resistance is usually multi-genic to that kind of pathogen
There are other mechanisms, Chinese has, that we might want to incorporate
Nanking -- was top of list for increasing resistance 10 years ago (Charlotte)
Acts differently than Graves and Clapper

Jared: Nanking is all over map; Meadowview parents were 50% -> 100%
Which ones did we use?
Phenotyping is good to start with

Jamie -- should we be doing other testing?
Jared: select the best, then throw all in pot and stir
Logistically easier to put Nankings in current orchards

Best Nanking x BestClapper, BestGraves x BestNanking etc. -- put in seed orchard blocks

Jared -- give trees longer to have to resist the blight, before removing
Maybe: Don't plant at 1 foot. Plant at 3 feet (Meadowview)

Stumps: "garalong" herbicide may not move between trees like glyphosate does
Re-mowing works too, if we keep doing

Mark: is it a good idea to plant pure southern Americans up here
Jared: yes because so much PRR in fields down there

Diversifying sites at which germplasm exists will help us long term (we want to maintain
American trees' genetic diversity, including the more-genetically-diverse southern chestnut
population which is attacked by PRR more now)

Mark: Kendra asks him to inventory what is planted, don't want overrepresentation or
underrepresentation of different ecotypes across our states. Then we can add southern sources
potentially

Jared: blight may grow faster, kill trees faster, in the south, another reason to grow them up here

Keeping grafted trees alive using hypovirulence is another approach, they are working on that
super-donor approach

Jared: Need more people in Chapter who can learn to graft! It takes years to learn well.

Coffee break

Intern for planting season

Bill Davis, Jamie

-Discussion and vote to approve

Rufin has generously offered 10K for the intern!

We plan to interview both interns with Executive Committee & Josh S.

Bill Davis: sent out the outline for the Intern position

Website -- work with Yvonne & Kathy

Weekly meeting w/interns

Detailed logs required re. Visits, mileage

Middle May to end August

Flex hours

Compensation -- possible \$15/hr?

Insurance? Legality?

Out-of-pocket expenses at each site

Gray: do we have insurance to cover the interns; what do we need to appropriately cover an intern

Josh: when he was an intern, he was an independent contractor -- depends upon how much we control their work. Minimum wage in MA is \$13.50.

Kendra's are covered by TACF staff coverage

Maine has hired people. We are a separate 501c3 from National like them.
Ann Rea might help.

Internship vs contractor? Educational component... no benefits?

If people get hurt on the job, be sure everyone is covered

Paul: wants to sure we have enough work for them

Sometimes one at a time, sometimes both at once

Jamie: both candidates have experience working with chestnut

Rich: interns should have cell phones

Brian: if either could work during harvest people that could be very beneficial

(late September through mid October)

Bill: Rachel might get a permanent position

Eric might have a summer job offer, might have a limited number of hours

Gray: suggests that multiple candidates a good idea

MOTION: we empower the ExCom to make hiring decisions re. The interns for the 2021 season.
Not to exceed \$10,000, subject to change by the Board.

Passed unanimously

\$.12/mile , possible \$13.50/hour but that is left out of MOTION

Josh: the work was sometimes piecemeal, lots some weeks, none other

Brian: won't have trouble keeping people busy

20 vs 40 hrs/wk

Josh: having a schedule would be helpful; he had trouble finding work some weeks

It is a big job to keep interns occupied for whole summer, for instance

Kendra: most interns are through TACF or as a university partner

Rufin: several years ago two women from Duke worked as interns, partly together

Paul: thinks that we can consider going outside the \$10K?

Kendra: application for Manton Grant goes out on February 15th.

ACTION ITEM: Bill, Josh, Excom to meet and discuss. Others welcome if interested.
Feb. 7, 2021 9am Sunday

Interns NOT to do chainsaw work

Ladders? Bad injuries possible, National has had people get very badly injured, as have we

ORCHARD REPORT:

Brian Clark

- MA/RI Orchard work for 2021

Google Document created and modified by numerous orchard managers

-Seed Orchard Opportunity (Sandisfield) Update John M. (Doug Miner) -- no updates at this time

-Burrillville Land Trust planting/orchard Update-- stay tuned! Yvonne, Ed Croteau

Ed is working on his URI Master Gardener certification currently (they are collaborators with us down at the South Kingstown, RI Land Trust orchards). We are also working with the URI Master Gardeners on whether Burrillville can be connected to that organization also.

-Norfolk Orchard news

Lisa Collins , Brian

Special case because student involvement needed. No updates from Lisa at this time.

-GCO news - Lincoln, MA GCO

Mark Meehl

Considerable progress on the 2 acres. Site of a former winery. Area cleared up. Has a well.

Insurance modifications, covered by our policy -- has been written into license agreement w/Town of Lincoln.

Returning field to its previous condition if we leave. They would like us to grind stumps if we leave. Mark: if we leave soon, that is simple.

Would need special permission to use transgenic trees or pollen.

Document signature needed: Jamie needs to do this on behalf of Board.

Kendra: GCOs have many uses; pollen, nuts, etc. Doesn't have to be transgenics.
Not planning to plant transgenic trees in the GCOs.

MOTION: We authorize Jamie to sign the Lincoln GCO agreement on behalf of the Board.

Passed unanimously

ACTION ITEM: Jamie and Mark to get together and sign document

Mark planning to plant this spring at Lincoln GCO

Interns cont'd.

Safety issues for interns and others:

Chainsaws, Ladders have been mentioned as out of bounds for interns

Volunteers should also not use ladders

Brian: Mixing lines in orchards: lots of planting work that interns can do -

Kendra: needs to update our Chapter Science Plan, similar to last year, can discuss at spring meeting

Gray: Eagle Scout project w/BC3F3 trees in Blue Hill Reservations

MOTION: provide 30 BC3F3 seedlings to Boy Scouts in Boston Area.

Passed unanimously

PRESIDENT'S NOTES:

Schedule Spring Quarterly meetings date

Spring Quarterly Meeting

April 18th, 2021 (ZOOM)

Plimouth/Pautuxet plantings and interpretive signage

Brad S., Joshua Myer

Brad needs a pipeline for good tree sources. Josh could not stay long and discussion tabled.

Discussion of Signage at existing orchards

Yvonne, Gary J.

Gary not present (tabled)

Google Groups Update

Yvonne, Kathy, Brad

Orchard Managers Group

All orchard managers!

Marichestnutorchards as potential Google group's name (for email) -- "inclusive" wording seen as best

Kathy has not sent out list to group

Further work on this tabled until Spring

Zoom Annual Meeting Review

Jamie

-The Good, the Bad, and what to do differently next time.

Brad: we had good turnout, but missed the food.

Need to send scones out!

Classier backgrounds like the Roman one Brad has

Getting Jared at each meeting (quarterly) would be great; put him on the agenda

Kendra: Jared has a new perspectives often

Michael can directly talk to Jared/Kendra

Kendra is due on Mother's Day! She is trying to wrap things up -- will not have child care for her new baby until mid August

Will have an intern, more like a technician; Kendra is hoping to have her somewhat available?

Tighten up database

Rianna!

Adjourned 1PM