



CHESTNUT CHAT – Q & A
CHAT III: SUNY - ESF
DATE: FRIDAY, MAY 1, 2020

QUESTION	ASKER NAME	ANSWER(S)
Formula for acid test on leaves not 50mM English please.	Anonymous Attendee	
Have restrictions at SUNY-ESF held back your lab work?	Brian Roth	
What might be the approximate cost of the frozen OXO pollen?	Robert NClark	
Has there been any long term studies done on the effects of Pleiotropy in regards to tree growth and nut production in the GMO tree?	Ken	
Why would the transgenic tree breed true to oxo 50 years into the future growing in the wild?	Ken	
What do you think the process would be for a state agency, such as Mass DCR, to approve growing transgenic trees? This could be in Seed Orchards they already have or on their land in landscape settings, or on land under Conservation Restrictions they hold.	Bob Busby	
<p>American chestnut develops large areas with many blight fruiting bodies. Chinese chestnut, and likely trees with an OXO gene, likely do not allow the blight to develop nearly as many fruiting bodies. Is this true?</p> <p>Ability to develop more fruiting bodies would be one avenue of evolutionary “pressure” on the fungus. A basic principle of evolution is that if more offspring are produced by a mutation, perhaps individually as likely to survive, that this is what is meant by “evolutionary pressure”. Saying that blight can survive on OXO trees is only</p>	Yvonne Fedorowicz	



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<p>part of evolutionary pressure, and is not typically how one determines whether a mutation (e.g. a mutation “around” OXO) is adaptive. Blight is able to spread very quickly between susceptible chestnuts in general, so if a population of blight “gets around” a resistance strategy, it likely will spread widely to similarly trees.</p> <p>This argument does not preclude using OXO! It is an argument against using any one resistance strategy on its own. Perhaps Chinese faced this.</p>		
<p>As the "mother" trees get to the point of producing flowers and seeds, will growers be able to contact researchers to get transgenic pollen for the mother trees or will we have to wait for government approval?</p>	Steve Bissen	
<p>Where can I find a compressive list of scientists working on restoration ecology and conservation with genetic engineering on trees especially for Ph.d research?</p>	Auriel	
<p>I grew up in southern Italy where there were many chestnut forests but now are mostly gone. will this project extend beyond USA/Canada?</p>	Pete	
<p>As part of the roll out of the approved Chestnut trees, in addition to getting the sample trees, you could provide instructions to building growth benches to increase the success of the seeds you eventually send out. I have been a member of ACH for 20 plus years. I have planted and killed a huge number of these trees. I desperately want to see these trees in my ecosystem. I come out and harvest the burrs. These are amazing trees.</p>	Chris White	



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So building a package of success tools would be appreciated.		
Regarding environmental and other impacts, and the reporting of them for regulatory purposes, would not the documented historical evidence of the positive effect thereof be useful in this regard?	Matthew Zaolino	
can you send us a quick link to where the session archive can be located for later listening	Jim English	
You just mentioned copies of the slides. In particular I would be very interested in the list Dr. Powell showed of all the different food plants beyond wheat that also have the gene.	Clark Beebe	SFF follow-up via email
I have heard about a large scale effort to get v1.0 trees planted in eastern KY in conjunction with coal companies and beekeepers. Have you heard of this? How is it going?	Chris White	A lot of this work has been done in partnership with ARRI and, more recently, Green Forests Work. TACF has provided the chestnut trees but you can find more info at the GFW website: https://www.greenforestswork.org/
Given that Chinese Chestnut trees can carry the blight, are there pros or cons to planting Am Chestnut, original and or back cross hybrids, or eventually transgenic trees, in proximity to Chinese Chestnut trees?	Charlie likel	All chestnuts can cross, though there are some barriers. If you would like species to cross, go ahead and plant them together. If a cross-species crosses are undesired for whatever reason, do not plant w/in 1/4-1/2 mile to prevent cross pollination.
Will transgenic trees be likely be available for the public in the next decade?	russell oates	As long as the trees are deregulated by the three regulatory agencies, it's very likely that will happen within the next decade. We are cautiously optimistic that will happen.
From wabisabi to Everyone: 11:53 AM Beekeepers use Oxalic Acid to treat for Varroa Mite infection the world over. Is there any chance this enzyme could interfere with this most common bee treatment?	Anonymous Attendee	Good question! We've looked specifically at OxO in pollen, and didn't see any directly harmful effects against bees. As far as interfering with Varroa mite treatments, the only way I understand this could have an effect is if there is an adequate quantity of active OxO enzyme present in bee hives, and that the enzyme would come in contact with the acid before the acid contacts the mites. This would require bees moving live tissue to their hives, which does happen with pollen... But it turns out that transgenes are



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		expressed at very low levels in pollen, so it is very unlikely that there would be enough active OxO enzyme to degrade oxalic acid, especially before the acid comes in contact with the mites. This will be interesting to study once we are able to collect enough transgenic pollen to do studies like this! But based on what we understand at this point, it doesn't seem like a substantial risk.
My chestnuts just spouted. They are very small. One or two are withering and I noticed one extremely small, almost transparent bug eating or sucking on a very small new leaf. It seems to have done damage and the other leaves are not coming well. I pinched the insect away and no more are evident. It was so small, I could hardly see it, maybe flea size or smaller and very transparent. Should a spay something or do something to inhibit that?	Barry	Hi Barry - Really hard to say what it might have been without seeing the critter. There are also quite a few things that can affect germination that may or may not be insect related. Your critter could have been an aphid, but it does seem a bit early for them to pop up. If you can share a picture via email, we can try and ID what you might be facing. But we really need a picture of the critter to give a more precise solution.
I recently joined the ACF and am hoping to get my seeds soon. I'm new at this and I was hoping I could get some information on planting them correctly. Thanks- Frank M	Frank Mugo	Hi Frank - I don't know that we will get time to talk about planting during this session, but we will try. If we don't get to it, feel free to get in touch with us afterward for more information. Next week we will have a tour of TACFs Meadowview Farms, and will probably talk more about planting and growing during that session. If you can hold off until next week's chestnut chat, I think we'll get into more detail then.
I've some Dunstan chestnuts I've planted, any comment on those hybrid Stocks?	Gary Wilson	Hi Gary -- Kendra pasted a link to an article about Dunstan chestnut in the chat box. Try that out and see if it answers your question. If not, please do follow-up: sff3@psu.edu
How can I get a copy of the NY Times article on Chestnut Breeding? Please send to my email if possible as I am not a subscriber...John Cobb	John Cobb	Hi John - I'm afraid we can't legally share or send the NY Times article. From what I understand, though, you can sign up and join their mailing list to get access but don't necessarily need to subscribe. Many libraries also allow access to NY Times to their library card holders as well. I recommend checking with your local library, too.
I would like to plant 100 saplings of the Darling 58 Strain of the American Chestnut Trees in the	John Cobb	Hi John - we will talk a bit more about the availability of these trees -- it's the #1 question on everyone's minds! But until the trees get de-regulated



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Spring of 2021 here in Ireland West Virginia can I purchase of bare root saplings and my goal is to plant them in tubes. Let me know...John Cobb Ireland WV.		by USDA, FDA, and EPA, their distribution will be extremely limited. Trees will not be available by 2021 and it will take quite a bit of time to ramp up production. By staying involved and a member of TACF you will be the first to know when these trees are available.
Please publicize the open comment time for us so we all know and are able to comment. Please facilitate this with easy access to address, names, etc.	Matthew Zaolino	Hi Matt, if you are on our TACF membership email list or we have a good way to be in touch, we will be sending detailed messaging, instructions, and ways to participate. Lisa
When will e-sprout resume? Tom Wrasse from Buchanan, MI	Tom Wrasse	Hi Tom -- eSprout is sent out every 2 months and I don't think it's been stopped during the COVID orders. The newest issue of the Chestnut magazine is going out soon and then we'll turn our attention to eSprout. Thanks!
Can we get a copy Bill's presentation?	Anonymous Attendee	I will see if we can post a copy with the recording.
what is the acronym that Lisa mentioned, the one that shows the new relationship between chestnut groups? and what does it stand for? thanks.	mmyer_002	It's called 3BUR: Breeding Biocontrol and Biotechnology United for Restoration
https://www.nytimes.com/2020/04/30/magazine/american-chestnut.html	robroy	Thanks for the link! We've gotten a lot of great discussion around this article!
Just wanted to let you know: The Western PA Conservancy continues cross promote these events on their Facebook page.	Steve Johnst onbaugh	Thanks, Steve!
Are any of you seeing Curculio sayi (the lesser chestnut weevil) in the TACF orchards? What is the best non chemical way to control this chestnut pest?	Ken	We do see weevils in orchard, especially if they have been producing nuts for a while. There is a good how-to article in a 2019 issue of our magazine - see pg 17: https://www.acf.org/wp-content/uploads/2016/09/Volume-XXIV-No.-3-September-2010.pdf



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Great presentation Andy! Any similar program to save the Elm? Ed Pfeiffer	Edward Pfeiffer	Yep - check this out: https://www.esf.edu/pubprog/elm/default.htm
Have you seen the article in today's New York Times about chestnut breeding?	Dan Schadler	Yes - it was also shared in the chat: https://www.nytimes.com/2020/04/30/magazine/american-chestnut.html?action=click&module=Top%20Stories&pgtype=Homepage
How long to get all three approvals for Darling58.	Anonymous Attendee	live answered
Have you tried Chinquapins	Anonymous Attendee	live answered
Dr. Powell - you can address this later. Just wondering if you have switched to using CRISP rather than agrobacterium.	Kent Wilcox	live answered
What is the cost to build a light Chamber?	Robert NClark	live answered
I am looking forward to hearing about the difference in approaches and success between the V1.0 15/16 backcross and the new recombinant approaches.	Chris White	live answered
are there questions here? I do not see any	Anonymous Attendee	live answered
What can we do, as "ordinary citizens," to help pressure the various government agencies to approve the transgenic tree for widespread release?	Matthew Zaolino	live answered



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Please comment on the phytosociological challenges associated with reestablishing restored chestnuts into present day eastern deciduous forests.	rp	live answered
Does CRISPR have applications for chestnut restoration?	Sharon Friedm an	live answered
Is there a document somewhere with a description of how to do the OxO leaf assay?	m a	live answered
Any hunch on how the USDA will look view the application? Fairly straightforward to approve release outside restricted orchards or require many more hoops to jump through. Any guess regarding time to approve?	M n K Holmgr en	live answered
What makes mollisima and crenata species resistant to blight? Do they have the OxO gene?	woodla nd dave	live answered
Is the antibiotic selective gene tightly linked to the Oxo gene in the tree - or is it lost during subsequent breeding?	Kent Wilcox	live answered
Is there genetic material taken out to make room for the OxO gene?	woodla nd dave	live answered
In your wildest nightmare, what could go wrong in releasing a transgenic American Chestnut into the environment?	Eric Rinehi mer	live answered
Have you had or do you anticipate any pushback from anti-GMO activists?	Anony mous Attend ee	live answered



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OK thanks so much I will get a copy from a friend ...Good Session today thanks John Cobb	John Cobb	live answered
Do the FDA, USDA, etc. run their own tests or use your data regarding their approval process?	George Lathrop	live answered
I've shared the NYT article with a number of friends. Are there any areas in the article you three feel were over or under emphasized?	Louise Aucott	live answered
Is the OXO gene always expressed as if it has gene drive properties?	Gene	live answered
Hi - I use LED lights in our greenhouse to get TG pollen	Tom Klak	live answered
Have there been differences in how the different batches of TG clones perform in the fields—and if there are differences, why?	Mary Ayres	live answered

