

14:16:26 From Ted Swiecki to Everyone:

are any of the viruses discussed seedborne?

14:18:36 From Dan Stark to Everyone:

Wow!

14:22:19 From Tyler Bourret to Everyone:

from someone who works at the national fungal herbarium, here here for historical pathogen specimens!

14:22:23 From Susan Frankel to Everyone:

Are you or anyone else looking at these questions in central or northern CA?

14:22:40 From Dan Stark to Everyone:

Reacted to "from someone who wor..." with 👍

14:23:31 From Tyler Bourret to Everyone:

are you worried that these non-native pathogens might be driving "genetic pollution" from more virus-resistant agricultural congeners?

14:25:09 From Tyler Bourret to Everyone:

I'm more interested in agricultural plants sharing genes with native plants

14:26:17 From Susan Frankel to Everyone:

Excellent talk! Thank you!

14:26:25 From Tyler Bourret to Everyone:

Reacted to "Excellent talk! Than..." with 🍌

14:39:22 From Torrey Young to Everyone:

Value of natural (e.g., brush chips, leaf debris) seems missed by the majority of landscape professionals, which routinely remove plant debris, often with blowers, and replace with dyed, recycled, processed wood, i.e., little biological benefit. Mulch, of course, reduces soil moisture loss among many other benefits, often enhanced by ineffective irrigation practices.. Education of maintenance personnel and L.A.'s seems elusive. IS this part of your role? Ideas?

14:45:20 From Natalie Calderon to Everyone:

If we want to access the recording of these meetings at a later time, how can we do that?

14:46:03 From Janice Alexander to Everyone:

Replying to "If we want to access..."

The link to the recording will be emailed out to everyone on the registration list and also posted on the CalPhytos.org website

14:46:14 From Natalie Calderon to Everyone:

Reacted to "The link to the reco..." with 👍

14:46:18 From Natalie Calderon to Everyone:

Replying to "If we want to access..."

Thanks!

14:46:23 From Torrey Young to Everyone:

J. Godfrey: Acknowledging there are many, can you cite a few pathogens that seem most exacerbated by drought?

14:51:26 From Johanna Del Castillo Munera to Everyone:

Botryosphaeria pathogens can cause canker and dieback on a wide host range of woody trees. Recently they have been associated with redwood decay due to drought. When plants are infected with Phytophthora species, and experiencing drought, symptoms can be exacerbated.

14:55:17 From Tyler Bourret to Everyone:

Why isn't Platanus x acerifolia (x hispanica) on your "do not plant" list?

14:56:17 From Shannon Lynch to Everyone:

London plane is killed when attacked and is on the list

14:56:59 From Tyler Bourret to Everyone:

There was an earlier "do not plant" list that had P. racemose and P. mexicana but not the planetree.

14:57:27 From Shannon Lynch to Everyone:

The last slide he posted was correct

14:57:43 From Tyler Bourret to Everyone:

Reacted to "The last slide he po..." with 👍

14:58:57 From Jessie Godfrey | UC Cooperative Extension (she/her) to Everyone:

Hi Torrey, yes this might be part of my role. Invasive shothole borers may be a complicating factor for mulch transfer, but folks at Dominican University's Ornamental Research Site are working on steaming strategies.

14:59:38 From Shannon Lynch to Everyone:

FYI, the beetles are attracted to the fungus into an area. The lure we use for trapping has a compound called querciverol, which is based on the fungus.

15:00:54 From Tyler Bourret to Everyone:

Honestly I don't know what chance *P. racemosa* has until we deal with climate change. Not to be pessimistic

15:01:53 From Susan Frankel to Everyone:

Can you say a bit more about the Bay Area infestations? How many trees in Felton? And is there an aggressive response to prevent further spread?

15:02:02 From Chris Lee to Everyone:

Igor, alders suffer from a "shothole"-like attack pattern from the alder bark beetle. I think you've seen both of these--how similar is this phenomenon to the ISHB one?

15:03:03 From Wallis Robinson (they/them) to Everyone:

How resilient are ISHB to flooding? If, for example, you had an infected willow in a riparian area and removed the tree but not the stump, could a good rainy season help deal with the remainder?

15:03:20 From Tyler Bourret to Everyone:

I'm very interested in looking at *Platanus* health and genetic pollution, but it has to be from a global perspective. I have a fair amount of facilities and funding if anyone wants to collaborate!

15:03:25 From Torrey Young to Everyone:

Igor: wood handling... how effective might removing the bark alone be?

15:03:36 From Shannon Lynch to Everyone:

Replying to "Can you say a bit mo..."

They are working on inventorying the trees right now, Susan. I can speak to that more as I did a site visit last week

15:04:48 From Shannon Lynch to Everyone:

Replying to "Igor, alders suffer ..."

Chris, the holes are a little bit bigger.

15:06:28 From Wallis Robinson (they/them) to Everyone:

Thanks!

15:06:44 From Torrey Young to Everyone:

Igor, et al; I am fond of London plane due to their tolerance of abuse... often under the guise of "maintenance". Not fond of the profuse monocultural plantings, however.

15:07:31 From Tyler Bourret to Everyone:

It's a beautiful tree. We probably brought an entire host of pathogens around the world with it, though

15:08:16 From Wallis Robinson (they/them) to Everyone:

@Shannon Lynch nooooo!!! But makes sense for a southeast Asian group of species! Thanks for that additional answer re: isbh flood resilience!

15:10:17 From Shannon Lynch to Everyone:

Replying to "Can you say a bit mo..."

The infestation is alarming - it is at the mouth of the San Lorenzo river and is moving rapidly through the box elder right now. It has probably been in the area for three years as it is just now moving onto other tree species.

15:15:31 From Chris Lee to Everyone:

Replying to "Igor, alders suffer ..."

Thanks, Shannon!

15:18:47 From Jessie Godfrey | UC Cooperative Extension (she/her) to Everyone:

Replying to "J. Godfrey: Acknowl..."

Hi Torrey! This paper might be useful: <https://www.afs-journal.org/articles/forest/pdf/2006/06/f6061.pdf>. It frames the answer to the question well, in that there are indeed a lot of pathogens that interact with drought and have been studied (e.g. bot cankers and root rot fungi like phytophthoras and armillarias) and there are many more that interact with drought and have not been so well studied (e.g. foliar diseases like powdery mildews)

15:22:29 From Tyler Bourret to Everyone:

The presence of *P. cinnamomi* out here in the Eastern US is completely confounding attempts to restore American chestnut

15:23:00 From Shannon Lynch to Everyone:

Replying to "The presence of *P. c...*"

yep!

15:37:42 From Tyler Bourret to Everyone:

really interesting results, Chris!

15:39:53 From Shannon Lynch to Everyone:



15:41:52 From Chris Lee to Everyone:

Thanks, Tyler. One thing I didn't mention is that the shortleaf pine folks say the only reason we don't hear more about littleleaf disease these days is that the pathogen has decimated the population of shortleaf pines in the Piedmont area and it has largely been replaced by loblolly pine.

15:43:06 From Tyler Bourret to Everyone:

Very interesting. I wonder if anyone has looked into the host genetics to understand why loblolly might be less susceptible

15:43:54 From Ebba Peterson to Everyone:

Thank you Chris! I don't want to steal anyone's thunder if someone else is mentioning this, but another conifer Phytophthora to be aware of is *P. austrocedri*, which was recently detected in 2 (could be more) PNW nurseries. Hosts are in the Cupressaceae (which includes Sequoia and Chamaecyparis); the main impacted genus is generally thought to be Juniperus but we'll be starting pathogenicity testing this spring.

15:45:13 From Chris Lee to Everyone:

Thanks Ebba, that's a very important thing to have mentioned! Oh boy, another one to cause potential problems for redwoods, cypresses, and cedars!

15:45:21 From Susan Frankel to Everyone:

Reacted to "Thank you Chris! ..." with 🙄

15:46:24 From Tyler Bourret to Everyone:

The CDFA just (or is in the process of updating their *P. austrocedri* Pest Rating. We all agreed it hadn't been found in the state before

15:48:13 From Ebba Peterson to Everyone:

Replying to "Thanks Ebba, that's ..."

It's unfortunately very difficult to isolate, which in turn makes it difficult to survey for. However if anyone finds a ELISA (+) conifer lesion in that family that they can't get an isolate from this would be one things to look into.

15:51:20 From Chris Lee to Everyone:

Replying to "Thanks Ebba, that's ..."

That's good to know. I try to isolate things myself so I can take a step or two off of CDFA's plate-- but maybe I should be using ELISA too, or sending plant materials straight to them so they can do the ELISA pre-screen. Thank you for the useful information.

15:51:53 From Janell Hillman to Everyone:

Great job on the AIR program, Johanna and Dean!

15:52:03 From Natalie Calderon to Everyone:

Reacted to "Great job on the AIR..." with 🙌

15:52:12 From Tyler Bourret to Everyone:

It's coming along so quickly. Amazing work!!!

15:52:34 From Nikki Hanson to Everyone:

Are you reaching out to connect landscapers with accredited nurseries? I would love for these nurseries to be successful in helping create a demand for pathogen free retail nurseries too!

15:52:39 From Susan Frankel to Everyone:

Reacted to "Great job on the A..." with 👍

15:52:45 From Shannon Lynch to Everyone:

Amazing work, Johanna!

15:54:17 From Johanna Del Castillo Munera to Everyone:

In our website, we have the list of AIR participating nurseries  
<https://airnursery.ucdavis.edu/participating-nurseries>

15:54:58 From Johanna Del Castillo Munera to Everyone:

@Nikki Hanson <https://airnursery.ucdavis.edu/participating-nurseries>

15:55:16 From Nikki Hanson to Everyone:

Reacted to "@Nikki Hanson <https://airnursery.ucdavis.edu/participating-nurseries>" with 👍



15:55:26 From Suzanne Latham to Everyone:

Replying to "Thanks Ebba, that's ..."

Yes, we are willing to test cypress or other suspect material for *P. austrocedri* at the CDFA lab.

15:55:33 From Suzanne Latham to Everyone:

Replying to "Thanks Ebba, that's ..."

<https://blogs.cdfa.ca.gov/Section3162/wp-content/uploads/2024/10/Phytophthora-austrocedri-.pdf>

15:56:10 From Johanna Del Castillo Munera to Everyone:

Reacted to "Amazing work, Johann..." with 👍

15:56:15 From Johanna Del Castillo Munera to Everyone:

Reacted to "Great job on the AIR..." with 👍

15:56:27 From Chris Lee to Everyone:

Replying to "Thanks Ebba, that's ..."

Thank you, Suzanne.

15:56:41 From Natalie Calderon to Everyone:

Reacted to "Amazing work, Johann..." with 🍷

15:56:52 From Natalie Calderon to Everyone:

Reacted to "In our website, we h..." with 🍷

15:58:29 From Johanna Del Castillo Munera to Everyone:

@Chris Lee great presentation! I'd be happy to talk with the nursery you mentioned in your presentation. There's more information on our website with updated resources  
<https://airnursery.ucdavis.edu/>

16:00:04 From Shannon Lynch to Everyone:

Reacted to "In our website, we h..." with 🍷

16:01:14 From Chris Lee to Everyone:

Thanks so much, Johanna. Yes, I have definitely mentioned you to them, and I think I've mentioned them to you before as well . . . I haven't spoken to them in a few months, but maybe I can engage your help for a discussion soon about a plan for them to move forward with increased surveillance and maybe some physical changes to the nursery facilities.

16:09:01 From Johanna Del Castillo Munera to Everyone:

@Tyler Bourret thanks for leading the group to not break the Phytophthora genus!

16:09:37 From Tyler Bourret to Everyone:

Reacted to "@Tyler Bourret than..." with ❤️

16:11:04 From Johanna Del Castillo Munera to Everyone:

Reacted to "It's coming along so..." with 😊

16:16:02 From Tyler Bourret to Everyone:

Not to be too pessimistic, but based on my understanding of the MPMI of Phytophthora, looking for resistance genes in naive host populations is probably a wild goose chase

16:17:06 From Ellen Uhler to Everyone:

It would be so great to have commercially available pasteurized potting soil!

16:17:18 From Wallis Robinson (they/them) to Everyone:

Reacted to "It would be so great..." with 🙌

16:18:17 From Rhonda Allen to Everyone:

I wonder if some of this research work could be helpful to urban forestry managers who deal with city tree health and selecting species that are disease resistant.

16:18:31 From Nikki Hanson to Everyone:

Reacted to "It would be so great..." with 🙌

16:18:32 From Johanna Del Castillo Munera to Everyone:

Replying to "It would be so great..."

I agree on that! I reached out to a substrate company but they said they don't have the capacity of doing that. I'd like to reach out to more substrate companies

16:18:50 From Nikki Hanson to Everyone:

Replying to "It would be so great..."

Yes Please!!!

16:19:06 From Wallis Robinson (they/them) to Everyone:

Replying to "It would be so great..."

Yes! I've gotten several questions about where to source safe soil and mulch from restoration nurseries on the north coast

16:20:32 From Nikki Hanson to Everyone:

Mulch treatment would be helpful for preventing insect pests too, right?

16:20:39 From Vernon Huffman to Everyone:

Thanks Diana, Yes we can travel to you and help you out. Have steamer - will travel! Reach out anytime [Vernon.huffman@dominican.edu](mailto:Vernon.huffman@dominican.edu)

16:20:41 From Shannon Lynch to Everyone:

Before I forget, I wanted to add my website to the chat in case ppl wanted to contact me!  
<https://www.lynchforestopathology.com/about-us>

16:21:27 From Diana Benner to Everyone:

I think Nikki's point is great for thinking about how we mimic some effects of fire in areas where implementing a burn is limited

16:21:50 From Vernon Huffman to Everyone:

[https://www.dominican.edu/sites/default/files/2021-06/NORS-DUC-steaming-on-the-go\\_0621.pdf](https://www.dominican.edu/sites/default/files/2021-06/NORS-DUC-steaming-on-the-go_0621.pdf)

16:22:15 From Tyler Bourret to Everyone:

there is just a big problem with Phytophthora and resistance: it wouldn't be the plant destroyer if most plants had effective resistance genes hanging around in their genomes. But (probably) Phytophthora is the plant destroyer because it only became a plant pathogen relatively recently evolutionarily. Therefore most plants have had a very short time to develop resistance against Phytophthora, unlike true fungi, bacteria and plant viruses

16:22:23 From Nikki Hanson to Everyone:

Does anyone know of any food crop nurseries who grow clean plant stock? I work with so many homesteader types who are planting orchards and herb gardens etc., but people generally don't think about plant disease.

16:22:39 From Diana Benner to Everyone:

Also very curious about climate change, and host susceptibility, and additive impact of multiple pathogens

16:22:57 From Ellen Uhler to Everyone:

Vision Recycling has heat treated mulch (but not potting soil)

16:23:09 From Nikki Hanson to Everyone:

Reacted to "Vision Recycling has..." with 👍

16:23:19 From Wallis Robinson (they/them) to Everyone:

Reacted to "Vision Recycling has..." with 👍

16:23:26 From Tyler Bourret to Everyone:

the level of pathogen testing that grapevines undergo is quite impressive

16:23:35 From Nikki Hanson to Everyone:

Reacted to "the level of pathoge..." with 👍

16:23:42 From Susan Frankel to Everyone:

Reacted to "@Tyler Bourret th..." with ❤️

16:23:58 From Nikki Hanson to Everyone:

Replying to "the level of pathoge..."

Any fruit tree productions that sell disease free stock?

16:24:47 From Tyler Bourret to Everyone:

Replying to "the level of pathoge..."

There is no such thing as disease-free stock, only stock that has been tested for a particular panel of pathogens. and yes, many commercial nurseries test for specific pathogens

16:25:02 From Susan Frankel to Janice Alexander(direct message):

please be sure the chat is captured. thanks

16:25:23 From Nikki Hanson to Everyone:

Replying to "the level of pathoge..."

True, but I guess I am thinking about something that has been grown with best management practices in mind.

16:25:57 From Tyler Bourret to Everyone:

Replying to "the level of pathoge..."

the average eDNA soil sample is 0.25 g

16:26:03 From Tyler Bourret to Everyone:

Replying to "the level of pathoge..."

chris just said that

16:27:22 From Tyler Bourret to Everyone:

Replying to "the level of pathoge..."

one of Johanna's stakeholders is people who grow vegetables seedlings for transplant. they have very high phytosanitary standards

16:27:28 From Johanna Del Castillo Munera to Everyone:

Reacted to "Also very curious ab..." with 👍

16:27:51 From Nikki Hanson to Everyone:

Reacted to "one of Johanna's sta..." with 👍

16:28:08 From Janice Alexander to Susan Frankel(direct message):

I will do my best!

16:28:46 From Chris Lee to Everyone:

Ted, the risk assessment framework adds some very good (and more hopeful) perspective

16:30:46 From Tyler Bourret to Everyone:

we definitely need better diagnostic tools. the leachate baiting is great, but eventually we need something faster and cheaper

16:31:05 From Susan Frankel to Everyone:

Reacted to "we definitely need..." with 👍

16:31:43 From Shannon Lynch to Everyone:

Thanks for all your input everyone!

16:31:43 From Diana Benner to Everyone:

I am very excited about this program! Thank you Janell, Susan and Shannon!

16:32:02 From Cheryl Blomquist to Everyone:

Really great presentations and discussion!

16:32:03 From Jessie Godfrey | UC Cooperative Extension (she/her) to Everyone:

Reacted to "Vision Recycling has..." with 👍

16:32:09 From Johanna Del Castillo Munera to Everyone:

Replying to "we definitely need b..."

We validated an RPA assay and are starting to use it with diagnostics plant samples. We need more research to diagnose from water, soil,

16:32:13 From Nikki Hanson to Everyone:

Reacted to "I am very excited ab..." with 👍

16:32:22 From Chris Lee to Everyone:

Thanks Janell, Diana, Janice, and Bonnie!

16:32:23 From Nikki Hanson to Everyone:

Thank you sooooo much everyone!

16:32:24 From Johanna Del Castillo Munera to Everyone:

Thank you so much everyone! Great talks!

16:32:30 From Alisa Shor to Everyone:

Thank you everyone!