



CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.
Research Management Committee Meeting
Minutes
Monday, June 3, 2024

A meeting of the Research Management Committee of the Citrus Research and Development Foundation, Inc. was held on Monday, June 3, 2024, at Lake Placid Government Center Community Room, Town of Lake Placid, 1069 US Hwy 27 N, Lake Placid, FL 33852. The meeting was properly noticed and recorded. The meeting was called to order at 10:06 AM. by Chairman Aaron Himrod. Roll was called and a quorum was present. Committee members participating were Scott Adkins, Larry Black, Steve Farr, Aaron Himrod, David Howard, Deeley Hunt, Matt Machata, Jeanna Mastrodicasa, Tom Obreza, Morgan Porter, Daniel Scott, Brian Scully, Shannon Shepp, Wayne Simmons, Buddy Strickland, and John Updike.

Mr. Himrod noted that the minutes of the March 14, 2024, Research Management Committee meeting were included with the meeting materials. Mr. Scott moved to accept the minutes as presented. The motion was seconded by Ms. Porter and passed unanimously.

Mr. Dantzler reported on a meeting he and Matt Joyner had with regulatory personnel regarding ten compounds identified in Dr. Scully's work, and the use of a combination of streptomycin and OTC.

Chair Himrod asked Mr. Dantzler to comment on CRDF's budget availability for new projects. He stressed that while available funding is less than the appropriation that was requested, CRDF would not turn down a project that is worthwhile to growers, and staff would work to obtain the necessary funds.

Mr. Himrod began with the first project for consideration, Dr. Mattia and Dr. Chater's Grand Plan of their plant improvement programs. Revisions to this proposal were discussed by the Plant Improvement Committee during its meeting on May 30th. There were additional concerns about the trial locations not being the same as growers face. Mr. Black moved to request a revised proposal. The motion was seconded by Dr. Scully and passed unanimously.

Mr. Irely made a presentation on the Southern Gardens (SGCL) PGR lab activities and noted that Bayer has co-funded the costs of their samples tested the past year. Mr. Black moved to recommend Board approval of a fourth year of funding for the SGCL not to exceed \$250,000. The motion was seconded by Mr. Strickland and passed unanimously.

Dr. Scully reported on their progress of molecule/compound identification and testing, noting that 88 have been evaluated and another 200 are going out at this time. Dr. Heck will be providing a full report at the Annual Conference June 13th.

Dr. Nian Wang gave a presentation on his project #21-028, 'Generation of non-transgenic HLB-resistant sweet orange varieties using CRISPR-Cas technology,' and his efforts to bypass juvenility. Mr. Simmons moved to recommend Board approval of year 3 of Dr. Wang's project. The motion was seconded by Ms. Porter and passed unanimously.

Mr. Himrod noted Dr. Diepenbrock's snails project #22-014 that was previously tabled is up for second year continuation funding. Several growers continue to have a snail problem. Dr. Scully moved to

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recommend Board approval of year two funding of the project. Dr. Mastrodicasa seconded the notion and it passed unanimously.

Mr. Himrod noted that Dr. Ritenour's project #23-003, 'Generation of non-transgenic HLB-resistant sweet orange varieties using CRISPR-Cas technology,' had also been tabled for second year continuation funding. Letters of support have been received requesting continuing this project evaluating promising grapefruit scions and rootstocks and the benefit of additional data collection. Dr. Scully moved to recommend the Board approve year two funding of project 23-003. The motion was seconded by Dr. Mastrodicasa and passed unanimously.

Mr. Himrod continued with the discussion of the 29 Preproposals received in response to the RFP for Mitigation Strategies:

1. Y. Ampatzidis – 'AI-enabled automated needle-based trunk injection system'- Motion by Dr. Scully to recommend Dr. Ampatzidis revise and re-submit his preproposal. Seconded by Ms. Porter, the motion passed unanimously.
2. V. Ancona – 'Effect of OTC-injections in development of OTC-resistance and beneficial microbes in HLB-affected citrus trees' – Motion by Dr. Scully to recommend PIs discuss their project with the registrants. The motion was seconded by Ms. Porter and passed unanimously.
3. O. Batuman.1 – 'Elucidating the role of CLAs virulence variations on production differences in Florida citrus groves'- Discussion that this is better suited for the escape tree program. The preproposal failed for lack of a motion to advance.
4. O. Batuman.3 – 'Influence of degrading trunk-injected oxytetracycline on CLAs acquisition and internal microbiota of Asian citrus psyllid populations in Florida groves' - This has been studied before; the project failed for lack of a motion to advance.
5. O. Batuman.4 – 'Evaluation of the breakdown curve of OTC in the plant for control of HLB in the field'- Findings would be useful in the future but exclude known information. Ms. Porter moved to recommend the Board invite a full proposal. The motion was seconded by Dr. Obreza and passed with two dissenting votes.
6. H. Cheng – 'Development and delivery of a novel intra-species antimicrobial from *Sinorhizobium meliloti* for the control of citrus Huanglongbing' – The discussion was to find out if this works on CLAs and decrease the budget. Mr. Machata moved to recommend the Board request a revised preproposal for proof of concept and explain its success in controlling bacteria in alfalfa. The motion was seconded by Ms. Porter and passed unanimously.
7. J. Foucher – 'A new economical, ecological and rapid remedy to successfully eliminate the HLB problem in three (3) months!' – Based on EZ water generally not being accepted, Mr. Strickland made a motion to recommend the Board not invite a full proposal. Seconded by Mr. Scott, the motion passed unanimously.

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8. M. Gonzalez – ‘Zero Thermal (ZT) an organic solution to mitigate ACP populations in citrus groves’ – Due to lack of support, Mr. Strickland made a motion to recommend the Board not invite a full proposal. The motion was seconded by Dr. Mastrodicasa and passed unanimously.
9. X. Martini – ‘Investigating natural antifeedants and a multimodal repellent system to control Asian citrus psyllid’ – Due to the research affecting a small part of the industry, the project failed for lack of a motion.
10. T. Minter and H. Yonce – ‘Evaluate PT 150 as a systemic insecticide for control of ACP when injected into Citrus trees’ – see 11.
11. T. Minter and H. Yonce – ‘Evaluation of TPR 1 a new bactericide for control of HLB in Florida Citrus’ – A motion was made to recommend the PIs provide the results of the current project and combine both preproposals and resubmit.
12. I. Ojo – ‘Development of a jet injection system for citrus trees’ - The project was grossly over-priced; this could be useful in the future but does not address the RFP topics. Ms. Shepp made a motion to recommend the Board not invite a full proposal. The motion was seconded by Ms. Porter and passed unanimously.
13. J. Patt – ‘Mitigating ACP populations in isolated groves by creating habitat for the natural enemies’ – Dr. Mastrodicasa moved to recommend the Board not invite a full proposal. Seconded by Ms. Shepp, the motion passed unanimously.
14. J. Qureshi – ‘Developing knowledge to expand the effectiveness of OTC injection from CLAs-infected trees to Asian citrus psyllid acquisition and CLAs transmission’ – Mr. Strickland moved to recommend the Board request a revised preproposal with a reduced budget, remove the duplicated work and collaborate with Dr. Stelinski. The motion was seconded by Dr. Mastrodicasa and passed unanimously.
15. C. Yang – ‘Green strategies for fighting Citrus HLB: Trunk injection with RejuAgro’ – Preproposal is expensive and long-term, does not define the regulatory process. Failed for lack of a motion.
16. F. Alferez – ‘Integrating novel copper formulations with Brassinosteroids for citrus canker management’ – Ms. Porter moved to recommend the Board invite a full proposal. Seconded by Mr. Scott, the motion passed unanimously.
17. F. Alvarez – ‘Integrating a plant defense inducer to alleviate associated adverse effects of OTC therapy and overcome the “off” third year’ – Mr. Black moved to recommend the Board invite a full proposal. The motion was seconded by Mr. Scott and passed with three dissenting votes.
18. F. Alferez – ‘Assessing blending strategies with different Satsuma juice to boost orange juice quality’ – Mr. Black suggested leaving this up to the processors. Recommendation to collaborate with J. Bai research team and Florida’s Natural whether to invite a single preproposal.
19. J. Bai – ‘Enhancing orange juice quality using Satsuma, Satsuma-like hybrids, and culled fruits from Citrus Under Protective Screens (CUPS)’ – Recommendation to collaborate with F. Alferez ‘Assessing...’ Not ready for prime time – processors and marketing should handle. See 18. Alferez.

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20. O. Batuman.2 – ‘Exploring plant defense inducers as complementary strategies to copper application for controlling citrus canker and enhancing citrus greening management in Florida citrus groves’ – If effective, Magna Bon copper and Blockade will also be evaluated for managing canker and reducing CLas titer. Mr. Scott made a motion to recommend the Board invite a full proposal. The motion was seconded by Mr. Simmons and passed unanimously.
21. S. Santra – ‘Protecting trees using nano-GRAS IPM strategy – There was considerable discussion about this project, with a recommendation to drop Objective 3 and communicate results to stakeholders. Mr. Scott moved to recommend the Board invite a full proposal. The motion was seconded by Mr. Simmons and passed unanimously.
22. M. Shahid – ‘Optimizing silicon as plant defense inducer to improve plant health and alleviate citrus canker in HLB-affected citrus groves’ – a full proposal would have to show efficacy for canker treatment. A motion was passed recommending the Board request a full proposal with a lower budget and focus on an injection treatment of Silicon to evaluate the potential for resistance against CLAs.
23. L. Stelinski – ‘Evaluation of FANA antimicrobials for tree injection as a rotational alternative to OTC’ – With little discussion and consideration that it is too long term, Dr. Scully moved to recommend the Board not invite a full proposal. The motion was seconded by Mr. Strickland and passed with one opposing vote.
24. S. Strauss – ‘Short- and long-term assessment of bark, root, and rhizosphere microbiomes and antibiotic resistance genes of oxytetracycline-injected citrus trees’ – Dr. Scully moved to recommend the Board invite a full proposal for Objective 1, and if successful, continue with Objectives 2 and 3. Mr. Strickland seconded the motion and it passed unanimously.
25. C. Vincent.1 – ‘Improve HLB-affected tree health by basing volume, timing, and location of injection on tree physiology and phenology’ – After discussion, Mr. Black recommended the Board invite a full proposal for Objective 2 to potentially provide bridge funding while the PI applies for NIFA funding. The motion was seconded by Dr. Mastrodicasa and passed unanimously.
26. C. Vincent.2 – ‘Injury-free root delivery device for therapeutics in young trees’ - This project will focus on young trees where injection of OTC has been problematic. Mr. Strickland moved to recommend the Board invite a full proposal. The motion was seconded by Dr. Mastrodicasa and passed unanimously.
27. F. Zambon.1 – ‘Delivery of Mn and micronutrients to HLB-affected trees via standalone injection or mixed with OTC’ – Dr. Scully made a motion to recommend the Board request a revised preproposal testing five micro-nutrients, weighing the cost of injection vs spray application, in a two-year period. The motion was seconded by Mr. Simmons and passed unanimously.
28. F. Zambon.2 – ‘Effect of N-acetyl cysteine on the control of citrus canker in Florida’ – With no effect having been shown in a Brazilian study, a motion was made and passed to recommend the Board not invite a full proposal.
29. F. Zambon.3 – ‘Use of plant defense response inducer to control HLB’ – Again, with no positive effects realized in studies in Brazil, the recommendation was to not invite a full proposal.

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E. Rogers – ‘Phloem specific responses to CLAs for the identification of novel HLB resistance genes’ – With little or no interest, the project failed due to lack of a motion.

C. Bock – ‘Citrus black spot – what is the risk of dispersal of inoculum in FL in relation to current quarantine measures?’ – This preproposal was requested at the request of growers within the quarantine zone to gain a greater understanding of the spread of Citrus Black Spot, which could guide regulatory requirements. Dr. Scully moved to recommend the Board invite a full proposal. The motion was seconded by Mr. Strickland and passed unanimously.

Due to the length of the previous discussions, the topic of viroid use in Australia and high density planting of dwarf trees will be taken up at a future meeting.

There was no Other Business, and no Public Comments.

The meeting was adjourned at 4:00 PM.