CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.
Research Management Committee Meeting
Minutes
Tuesday, January 16, 2024

A meeting of the Research Management Committee of the Citrus Research and Development Foundation, Inc. was held on Tuesday, January 16, 2024, at the Hampton Inn & Suites Conference Room, 22900 Highway 27, Lake Wales, FL 33859. The meeting was properly noticed and recorded. The meeting was called to order at 10:00 a.m. by Chairman Aaron Himrod. Roll was called and a quorum was present. Committee members participating were Bobby Barben, Steve Farr, Ned Hancock, Aaron Himrod, David Howard, Ed Leotti, Tom Obreza, Morgan Porter, Daniel Scott, and Buddy Strickland. Also participating were Bryony Bonning, James Cooper, Rick Dantzler, Bill Dawson, Lauren Diepenbrock, Larry Duncan, Manjul Dutt, Jim Graham, George Hamner, Weston Johnson, Nick Kretchman, Matt Machata, Matt Mattia, Audrey Nowicki, Brandon Page, Zhijuan Pang, Joby Sherrod, Anne Elizabeth Simon, Rashmi Singh, Lukasz Stelinski, John Updike, and Leigh-Anne Vigne.

Mr. Himrod noted the minutes of the December 4, 2023, Research Management Committee meeting were included with the meeting materials. Ms. Porter made a motion to accept the minutes as presented. The motion was seconded by Mr. Hancock and passed unanimously.

Mr. Himrod started with Dr. Duan's full proposal #23-028, 'Exploring the HLB control potential of a new citrus-infecting virus, NMV-M/CFL, and its expression system.' Mr. Dantzler summarized the history of the proposal. Dr. Dawson said the real question is how well this works and how reproducible it is; would be a real gamechanger if it works. Virus would have to be grafted as opposed to being injected. Mr. Hancock moved to recommend the Board fund with the caveat to include an experiment that grafts infected budwood onto mature trees in the field. The motion was seconded by Ms. Porter and passed unanimously.

Mr. Himrod moved on to the Dr. Bonning's preproposal, 'Optimal combination of Bt toxins and gene silencing RNAs for management of citrus root weevil.' Mr. Dantzler explained that the Board previously requested collaboration among the scientists. They came up with a three-pronged approach: 1) find a Bt toxin, 2) try to find RNAi mechanisms, and 3) find transgenic rootstocks that show tolerance against the weevil. Dr. Bonning noted that they have the infrastructure to screen for the gene-silencing RNAs from previous USDA funding. Mr. Updike moved to recommend the Board invite a full proposal. The motion was seconded by Mr. Strickland and passed unanimously.

Discussion continued with Dr. Duncan's preproposal, 'Breaking the Diaprepes Life Cycle with Physical Barriers.' It was noted that properly maintained fabric would provide the most immediate effect on diaprepes. Previously published work stresses that if you control diaprepes, you can also control phytophthora. After discussion, the recommendation was to invite a full proposal with the addition of a calculation of water savings of using ground cloth to hopefully allow cost-sharing of the installation of the cloth by the WMDs. Mr. Hancock moved to recommend the Board invite a full proposal with a request for cost-sharing, as well as cost efficiency use data. Mr. Strickland noted that cost-sharing would require a 3- to 5-year project. The motion was seconded by Ms. Porter and passed unanimously.

Mr. Himrod moved on to Dr. Pang's, Silvec Biologics preproposal, 'A combined approach to reduce CLas and reverse symptoms in orchard trees.' Mr. Dantzler noted this request is for bridge funding until they can apply for ECDRE funding in the next round. Discussion centered on how the PP2 protein is effective in the plant. They expect to have products that will be useful in Florida. Growers would like for it to be injectable – injecting it into the phloem is a relatively new idea. It transports well within the tree. Mr. Updike moved to recommend the Board invite a full proposal. The motion was seconded by Ms. Porter, who requested the comments be shared with the PI to incorporate into the full proposal. The motion passed unanimously.

Yu Wang pre-proposal to develop a predictive breeding tool from leaf analysis as a way to identify losers earlier was discussed. It was moved, seconded, and passed.

Mr. Dantzler discussed the East Coast grapefruit trials that are about to be harvested and the potential to do taste testing at the UF CREC Pilot Plant quoted at $3,000. Mr. Page said they narrowed down to the four top yielders compared to the ruby reds from the same program, showing potential as a contender especially in CUPS. Mr. Updike moved to advance that selection of grapefruit to the test panel. The motion was seconded by Ms. Porter and passed unanimously.

Dr. Dutt was invited to present his progress on project #22-019, a Parson Brown study, and request for continuation funding. He noted that previous funding showed it had better flavor but lower yield, and the Parson Browns fell out of favor compared to Hamlins. More recent studies showed Parson Browns 20-25 years old were still most productive and had little fruit drop, especially compared to Hamlins both young and mature. In year two he proposed to study why there was lower fruit drop and how it would be utilized in the next phase, continuing to compare with Hamlins. The data has shown Parson Browns to have a better fruit detachment force and larger fruit. He discussed their past work with escape trees from the Buckhill grove. Dr. Dutt outlined his objectives for year two: select the top six performers and propagate dirty budwood on the industry's recommended rootstocks, a replicated block will be planted with DPI permission to understand if being a survivor tree is heritable, and several selections in the DPI clean tree program will be made available to stakeholders. Mr. Updike moved to recommend the Board approve year two funding. Ms. Porter seconded the motion and it passed unanimously.

Mr. Dantzler gave an update on the TCCC project for stage II field trials, as well as Dr. Heck's project with molecules to see if they have an effect on trees of fruit-bearing age, noting that 13 of 88 molecules injected are doing better than OTC-treated trees.

Mr. Dantzler and the committee discussed potential RFP and other topics, including:

- Mr. Howard's request to find injection devices for smaller trees
- To be able to back off psyllid control
- How long before resistance to OTC is developed
- What is the phytotoxicity effect from lower rate injections?
- Thyme Guard – level of risk
- Strategized with Matt Joyner about trying to get year 3 applications of OTC passed by EPA
- 9th Circuit decision on streptomycin. Mr. Dantzler said he has discussed the significant problem of canker with Dr. Manker from the Bayer project and how to get the compound Bayer is working on into the field. Expects a preproposal.

- Mr. Machata suggested identifying the groves in Florida that are doing best and determine if their methods can be duplicated in other groves.
- Mr. Leotti – for growers using OTC, a strategy for the third year.
- Mr. Dantzler reported on a meeting he, Dr. Graham and Brandon had with AmVac, Citrus Fix – about changes to the label to make it more usable for the citrus industry – will revolve around timing and split application.
- Mr. Joyner discussed a a low interest loan program for new plantings that Senator Albritton is considering introducing. It would be interest free for five years, a percentage then forgiven, and the balance paid at a low interest rate. A grower expressed interest in this being made retroactive to post-hurricane plantings.
- Dr. Kadyampakeni's proposal that was deferred to the Board and not funded is being funded by IFAS.
- Dr. Dawson noted the growing concern with canker – Elemental Enzyme's product Aura has been approved, there was a soft launch with the full launch expected in the spring in time for grower use. Could it help?
- Is there a synergistic effect with OTC and other products, including Citrus Fix?
- Blackspot – how the fungus is moved from block to block on equipment and a better understanding of effects of lifting canopy up were ideas suggested by Dr. Dewdney. Identify the level of concern before taking extreme measures. Plant debris should be removed from equipment before moving to the next block.
- Actigard is for canker and is more cost-effective for bearing than non-bearing.
- Mr. Barben thought Syngenta Blockade was pulled off the market – it was effective on trees up to a certain size.
- Mr. Howard brought up the idea of ways to mitigate reinfection in groves that have become relatively isolated.
- Continue pursuing the comparison of ReMedium and Rectify
- Identify the most productive groves in the state and find out what they are doing, as well as if the bacterium has morphed to become more harmful in other areas
- Mix nutrition in with OTC injection formulas
- Find an injectable that can be used the off year of the OTC label requirement

The meeting was adjourned at 12:16 pm.

Minutes submitted by A. Nowicki