

**Minutes of the
Research Management Committee Meeting
Thursday, October 14, 2021**

A meeting of the Research Management Committee was held on Thursday, October 14, 2021, at the Lake Placid Government Center, located at 1069 US Hwy 27 N., Lake Placid, Florida. The meeting was properly noticed and recorded. The meeting was called to order at 9:08 a.m. by David Howard. Roll was called and a quorum was present. Committee members participating were Bobby Barben, Tim Dooley, Steve Farr, Aaron Himrod, Sean McCoy, Tom Obreza, Pat Ouimet, Daniel Scott, Joby Sherrod, Matthew Story, and Buddy Strickland. Also participating were Fernando Alferez, Rob Atchley, Kim Bowman, Rick Dantzler, Bill Dawson, Steve Futch, Fred Gmitter, Jim Graham, Greg Hodges, David Howard, Bo Meyering, Audrey Nowicki, Brandon Page, Jim Syvertsen, Rosa Walsh, and Deidra Whatley.

Mr. Howard opened with the approval of the minutes of the June 12, 2021, RMC meeting. Mr. Sherrod made a motion to approve the minutes. The motion was seconded by Mr. Himrod and passed unanimously.

Mr. Howard requested approval of the minutes from the joint RMC/CPDC meeting on July 19, 2021. Mr. Strickland moved to approve the minutes of the July 19, 2021 meeting as presented. The motion was seconded by Mr. Sherrod and passed unanimously.

Mr. Dantzler discussed the requested budget reduction on the Millennium Block project 18-037C and noted that Dr. Cave gave a presentation of the project at the September Board meeting, and a field day to tour the Millennium Block in Fort Pierce was held on October 14, 2021. Mr. Sherrod moved to accept the proposed \$77,341.85 budget reduction. Mr. Himrod seconded the motion. It was noted that Dr. Cave would be assuming Dr. Ferrerazi's project, and the motion passed unanimously.

Mr. Dantzler introduced the Pathway to a Sustainable Citrus Industry narrative for the Committee members and the reason it was composed.

He reported that the independent Plant Improvement Review panel was still in the process of being selected and invitations would be going out to the participants. The review panel will review all of the citrus breeding programs and provide guidance to CRDF on such questions as where review panelists believe CRDF should invest funds. . Dr. Ouimet suggested a molecular biologist would be good to have on the panel. Mr. Dantzler explained that the panel would not weigh in on specific projects. Mr. Dantzler said the initial report is expected by the end of the calendar year and the final report at the end of February 2022. Mr. Dantzler noted that discussion of the 2021 RFP plant breeding proposals being considered for funding during the 2021 RFP could be deferred until the

Review Panel's report is received. He also explained that a few of these proposals were continuation projects that, should the Committee decide to defer action, could be considered for bridge funding to ensure there is not a lapse in productivity on the current project.

Mr. Dantzler explained that Southern Gardens is move away from work requiring regulatory approval, including CTV vectoring, which is mentioned in the Pathways document. This matter and could be addressed off-cycle.

Mr. Dantzler provided an update on Dr. David Gang's culturing work, noting that the project had been reviewed previously. He mentioned that the project, should CRDF choose that route, should probably be a project that would have funding partners such as CRB and others. No action is necessary at this time, but it is a potential matter for future consideration.

Mr. Dantzler reported that, of the fourteen action items resulting from the combined RMC/CPDC meeting in July, most have been completed and the balance were in process.

Mr. Howard began the review of the RFP proposals, comparing the ranking by the Scientific Advisory Board (SAB) scores with the RMC scores.

The first proposal for discussion was Dr. Tripti Vashisth's Project 21-026, "Regulating water uptake and water use efficiency to reduce fruit drop." After discussion, there was consensus that it was ranked correctly and not recommended for funding.

Dr. Zhang's "To inject or to spray? Effective delivery of a plant-based bactericide serum," Project 21-030, was evaluated next. The Committee agreed with the SAB and ad hoc reviewers scoring, and Project 21-030 was not recommended for funding.

Project 21-018, "Optimization and evaluation of the auxin-like melatonin as a therapeutic treatment to enhance tree performance and reduce yield loss of HLB-affected groves," by Dr. Killiny was discussed by the three Committee members who reviewed the proposal. After hearing their thoughts and concerns, the project was not recommended for funding.

Project 21-022 from Dr. Rossi, "Characterization of oak compounds that are active against citrus plant pathogens and/or improve citrus health parameters," was discussed next. the general consensus was that the compound was in the early stage of development and more trials were needed before funding a full project. Project 21-022 was not recommended for approval of funding.

Dr. Conrath's Project 20-010, "Discovering salicylic acid analogs that protect citrus from Huanglongbing (acronym: SalicyTrus)," was discussed next. Mr. Sherrod agreed with the SAB concerns of the project being risky. There was no change in score after discussion and Project 20-010 was not recommended to the Board for funding.

Project 20-016 from Dr. Guzman, “Evaluating the Impacts of Deficit Water Management on Root Growth and Fruit Drop for HLB Trees,” was reviewed by Staff and discussed by the Committee reviewers. Dr. Obreza commented that the project was complex, and Mr. Dooley noted the project’s high budget. There was no change to the score, and Project 20-016 was not recommended to the Board for funding.

Project 21-017, “Microneedles combined with slow-release spray film for direct phloem delivery of materials,” from Dr. Johnson was reviewed by Staff. The main concern of both the SAB and RMC reviewers was the high risk of the project. Project 21-017 was not recommended for approval of funding.

Project 21-029, Dr. Yu Wang’s “Control citrus HLB using antimicrobial peptides and host defense peptides identified from HLB-resistant citrus relatives,” was reviewed and was not recommended for funding.

Dr. Dewdney’s Project 21-012, “Evaluating the role of greasy spot and peel disorders in the greasy green defect on citrus fruit,” was next for discussion. Staff gave a brief analysis of the project and the SAB’s comments and concerns. The RMC felt the project to be critical and agreed to table the matter for further discussion later in the meeting.

Project 21-031 from Dr. Grosser on “Breeding and Evaluation of Scions and Rootstocks Necessary for Sustainable and Profitable Citriculture in Florida” was discussed in detail. Staff, again, gave an analysis from the SAB and ad hoc reviews. RMC reviewers voiced their concerns on the overall price of the project. The consensus was that Project 21-031 would not be advanced to the Board for funding but should be deferred until the Plant Improvement Review panel has completed its final report.

Project 21-027 from Dr. Nian Wang on the finger lime peptide was reviewed by Staff. Mr. Dantzler gave an update on the status of Elemental Enzymes’ peptide product. After discussion, it was decided to defer the project to a later date after more data has been released on the finger lime peptide.

Dr. Levy’s Project 21-019, “Novel assay to screen for antimicrobials and peptides to prevent multiplication of CLAs,” was brought for discussion. Neither the scores by the SAB nor the Committee were favorable for the project; and it was not advanced for funding approval.

Project 21-007 from Dr. Alferez on “Reducing fruit drop by altering hormonal responses within the tree through nutritional and hormonal therapies: a mechanistic affordable approach” was discussed. After Staff reported on the SAB and ad hoc reviewer comments, the Committee members who reviewed the project discussed their reasons for scoring; Mr. McCoy changed his scoring on the basis of the Gibberellic Acid presentation given on October 16th by the University. Dr. Ouimet also commented that there were novel approaches in the proposal. Mr. Strickland

commented that depending on spray timing and weather patterns, in a year or a so, this particular proposal could potentially have a totally different ranking. Ultimately, the Committee decided to revisit the proposal before the end of the meeting to make its funding decision.

Project 21-011 by Dr. Deng, “Identifying and Testing Novel Natural Antimicrobial Peptides from HLB-resistant Citrus Relatives,” was summarized by Staff and the consensus was made to reconsider the project at a later date once more data was received on the finger lime peptide. The Committee also noted that the high cost of the project affected their scores.

Dr. El Mohtar’s Project 21-014. “CTV-T36 vectors as a tool to induce efficient flowering in citrus seedlings,” was next for discussion. Committee reviewers began with their scoring reasons and Staff commented on higher SAB scores. Members of the Committee supported the project and felt it would be an effective tool for breeders and nurserymen. The Committee agreed to revisit Project 21-014 for a funding recommendation.

Staff gave a synopsis of Project 21-013 from Dr. Duncan regarding sting nematodes. Through discussions of scores from the SAB and the Committee, it was decided that Project 21-013 was ranked correctly and would be recommended to the Board for funding.

Dr. Folimonova’s Project 21-015 on the “manipulation of expression of the citrus miraculin-like protein 2 via CTV to defend against CLAs” was discussed next. Staff gave a scientific summary of the proposal for the Committee’s benefit. Staff’s analysis and the SAB’s suggestion was to eliminate trial sites to reduce the proposal budget. Mr. Howard suggested to revisit the project for funding recommendation. Mr. Dantzler also noted the SAB recommended the elimination of insect assays for budget reductions.

Project 21-024, “Determination of optimal timing for application of fertilizer to improve fruit quality and reduce preharvest drop,” from Dr. Schumann was summarized by Staff. A concern raised by reviewers centered around the graduate student logistics, coordinating their weekly work in Gainesville and Lake Alfred. Overall, the project rated highly by SAB and ad hoc reviewers. Dr. Obreza commented, not only as a reviewer of the project but on behalf of the University, to the concern of the graduate student logistics and importance of the project. The consensus of the Committee reviewers was that the project could produce useful and efficient information to growers. Project 21-024 was advanced for recommendation for funding by the Board.

Staff gave a summary of Dr. Alferéz’s Project 21-006 on Individual Protective Covers (IPCs) and Brassinosteroids (HBr) to extend the health of newly planted trees to increase yield and fruit quality. The Committee and SAB reviewers all agreed the work was important, but that the budget was too high, and requested that Dr. Alferéz be asked to revise his objectives to reduce his budget prior to the next Board meeting for consideration of funding.

Project 21-021, “CLAs Inhibition with Antisense Oligonucleotides for Management of Citrus Greening Disease,” from Dr. Pelz-Stelinski was reviewed next. Staff summarized the proposal,

noting the SAB scored the proposal relatively high, whereas the Committee had a few reservations. Reviewers for the Committee mentioned regulatory concerns and timeline to growers; however, based on the budget and the track record of the researcher, the project moved forward to the Board for approval of funding.

Dr. Bowman's Project 21-008, "Development of Next-Generation SuperSour rootstocks with tolerance to HLB," was reviewed next. Staff gave a synopsis of this continuing project. The recommendation was made to provide bridge funding for Dr. Bowman's current project 18-004 until the Plant Improvement Review Panel gives its final report, at which time Project 21-008 would be considered. Committee reviewers felt the budget was a substantial ask but realized that a good deal of work had been done to release rootstocks and more work would be needed to have additional options for growers.

Project 21-025 from Dr. Stover, "transgenic capable field site to assess HLB-resistant and other improved citrus," was presented. Staff noted it was a continuation project with a high level of support, but the SAB did have questions. Additional questions raised by the Committee regarding caretaking of the site and whether there are payments from other researchers/institutions to house their transgenic material at Picos Farm. Mr. Dantzler will reach out to Dr. Stover to find out. Project 21-025 was advanced for recommendation for approval of funding by the Board.

Dr. Albrecht's "Comparison of field performance of citrus trees on rootstocks propagated by seed, cuttings, and tissue culture," Project 21-005, was reviewed. Staff explained the proposal was a continuation of a current project which expires December 31, 2021. The proposal explained the transition of the projects to allow the research to continue as the trees mature. The SAB and a majority of the RMC reviewers rated the proposal positively. Project 21-005 advanced for recommendation of funding by the Board.

Staff reviewed Project 21-028 regarding "Generation of non-transgenic HLB-resistant sweet orange varieties using CRISPR-Cas technology" from Dr. Nian Wang. The SAB and Committee reviewers had positive comments and scored the proposal high. Dr. Ouimet questioned the IP rights and relationship with Soilcea. Project 21-028 was advanced for recommendation of funding by the Board.

Mr. Howard called for a short recess before revisiting proposals.

The Committee discussed the rankings of the projects to be revisited and particular contingencies related to the projects. Mr. Howard began with Project 21-012 from Dr. Dewdney. The Committee suggested Staff consult with the researcher regarding evidence of resistance to fund the particular objective. Project 21-012 was advanced to the Board for funding approval.

Project 21-007 and Project 21-014 were re-visited and advanced to the Board for funding approval.

A contingency discussed on Project 21-024 was for Staff to discuss the regional budget concerning the graduate student logistics between Gainesville and Lake Alfred.

Project 21-006 was a revisit; Staff was tasked to discuss with Dr. Alferez the budget concerns.

Mr. Howard reiterated that bridge funding would be recommended, up to six months, for Dr. Bowman's current project 18-004 until the Plant Improvement Panel opined on the breeding program as a whole. Dr. Ouimet commented on the efficiency of the breeding programs and the need for timely assistance to growers.

Mr. Dantzler would be contacting Dr. Stover regarding the questions raised by the reviewers and Committee pertaining to Project 21-025.

Mr. Sherrod moved to recommend to the Board the projects, as presented in this priority with the notes attached. The motion was seconded by Dr. Ouimet and passed unanimously.

With no further business, the meeting adjourned at 12:59 p.m.

Minutes submitted by Deidra Whatley