

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.
Commercial Product Delivery Committee
Meeting Minutes
December 2, 2014

A meeting of the Commercial Product Delivery Committee of the Citrus Research and Development Foundation, Inc. was held on Tuesday, December 2, 2014 at the University of Florida, CREC, IFAS, Ben Hill Griffin Hall in Lake Alfred, Florida. The meeting was properly noticed and recorded. The meeting was called to order at 9:30 a.m. by Chairman Ben McLean. Roll was called and a quorum was present. Committee members participating were: Mr. Joe L. Davis, Jr. (telephone); Mr. David Howard; Mr. Ricke Kress; Mr. Peter McClure (telephone); Mr. Ben McLean; Mr. Jerry Newlin (telephone); Mr. Andy Rackley (telephone); Ms. Shannon Shepp; Mr. Tom Stopyra and Mr. Hugh Thompson (telephone). Committee members Dr. Tim Anglea and Dr. Mary Duryea did not participate. Also participating were Dr. Harold Browning, Dr. Stephanie Slinski, Dr. Jim Syvertsen and Dr. Tom Turpen.

Also in attendance were Dr. Jim Dukowitz (telephone), Ms. Brandi Goller, Mr. Brandon Page, Ms. Shelley Rossetter and Ms. Audrey Nowicki.

Mr. Kress moved to accept the minutes of the October 23, 2014 meeting. The motion was seconded by Mr. Black and passed unanimously.

Chairman McLean discussed the recent meeting of CPDC and asked for project updates:

Project 1 - Antimicrobial Strategies –

Antimicrobial Candidates Matrix

Dr. Slinski reviewed the matrix of candidates being developed to track antimicrobials. Dr. Slinski presented an overview of the antimicrobial matrix, reviewing the categories for scoring and ranking of candidate compounds, beginning with efficacy data from the different assays. Some of the other considerations are manufacturing and scale-up, IP barriers, length of time to market a compound, and acceptance by consumers. The matrix is being populated with all available information for the included candidate materials, and new candidate chemicals will be added as they are identified. The matrix should assist in planning field trials that are expected to be conducted in spring. Mr. Newlin requested that CPDC members be provided with a copy of the matrix for independent review, and indicated that board members would want to see the content of the matrix. The desire was stated for the committee to review the matrix and make the recommendation to the Board prior to further funding of specific actions emerging from the matrix.

Dr. Slinski reported intent to develop a whole-plant assay for antimicrobial candidate screening. This assay will be designed to answer several additional questions once activity is shown in the *L. crescens* assay. Dr. Slinski will report on the matrix at the January CPDC meeting.

AgroSource

Dr. Slinski reported on the quarterly meeting with AgroSource (ASI) to discuss the CRADA and Project Timelines. ASI has initiated talks with FFVA and Florida Department of Agriculture and Consumer Services related to the expansion of the Section 18 for use of Firewall® on grapefruit. Discussion of the possible SLN

petition for Firewall® to control canker in oranges will begin as residue data are coming in and field results are being summarized.

NuFarm proposals

Dr. Slinski reported that, following the presentation to the CRDF Board in November, NuFarm is drafting proposals for presentation to CRDF in support of their field evaluation in citrus of antibiotic materials in use on other crops.

Regulatory Discussions on Antimicrobials

Meetings have been held with Mr. Dan Botts and regulatory advisors to discuss regulatory issues associated with various antimicrobial candidates and classes of candidates. Specific questions regarding regulatory pathway will be communicated for feedback from EPA.

Project 3 – Thermal Therapy to Reduce CLas Titer

Dr. Browning reported on four proposals submitted to MAC for consideration of funding. Three projects approved were for (1) Dr. Eshani's proposal for optimizing use of steam without damaging trees, (2) an out of state equipment manufacturer to develop a machine to deliver steam over the top of trees, and (3) Mr. Rex Clonts' proposal to develop a large enclosure for mature producing trees up to 14-feet tall. The fourth proposal from a Florida grower proposing to generate heat under an enclosure is not field ready and thus was not approved. CRDF has since been approached to consider funding this pilot project. A proposal may be presented to the committee in the future.

CRDF has agreed with MAC to evaluate thermal therapy trials, including the MAC approved projects. A proposal was included with the meeting materials outlining the strategies for this one-year project in the amount of \$82,456. The project has several dimensions, including the involvement of Dr. Nian Wang in leaf analyses to quantify living versus dead *CLas* bacteria before and after treatments.

Mr. Kress moved to recommend the Board approve funding of the project 'Evaluation before and after thermotherapy heat treatments to combat HLB' in the amount of \$82,456. Seconded by Mr. Black, the motion passed unanimously. Discussion prior to the vote clarified that the providers of the thermal treatment machines will be responsible for identifying cooperators for the trials and the CRDF evaluation team will work closely with the trial participants.

Project 4 – Plant Growth Regulator Interactions with HLB

Dr. Syvertsen presented results of the four 2, 4-D fruit drop trials conducted in December 2013, with additional details on soil and growing conditions where available. As previously reported, improvement in fruit retention was noted in the Hardee County trial site, and not in the other three sites. Dr. Syvertsen recommended the trial be repeated in the next year using a different set of trees to further validate results, noting that the crop consultant was agreeable to a second year at the same cost. In a second year study, trees will be evaluated for disease prior to the trial, allowing for comparisons on a tree-by-tree basis in addition to overall measures of performance. Additional site details also will be documented in the project extensions.

Mr. Davis made a motion to recommend the Board approve funding the Hardee County PGR 2, 4-D fruit drop trial at same level as last year, seconded by Mr. Stopyra. Discussion followed on the benefit of repeating at least one additional site, if not all four sites, to validate results, contingent upon the willingness of the crop consultants to participate. The applications in these trials would need to be conducted in December. Mr. Black moved to amend the motion to recommend funding four sites at \$5,000 each, contingent upon the willingness and availability of the crop consultants to participate, with trials beginning in December. Seconded by Mr. Stopyra, the motion passed unanimously.

Mr. Black moved to further amend the motion to recommend up to \$30,000 for four trials to allow for additional efforts required for soil and tree evaluations. Seconded by Mr. Stopyra, the motion passed unanimously.

Mr. Davis's original motion as amended was voted on and passed unanimously.

Dr. Syvertsen will contact the crop consultants to confirm whether or not they are able to perform a second year of these trials so that they would be ready to move forward if the board approves. In addition, Dr. Syvertsen was requested to attempt to obtain the same soil information

Project 7 – ACP Management and CHMA's –

Dr. Browning reported that the registrants' (Valent and Bayer Crop Science) efforts for a renewal of the Section 18 for clothianidin and Belay® are in progress. There may be a request forthcoming for the industry to provide letters of support and evidence of need for these products.

The EPA period of public comment on the proposed registration of SIVANTO® insecticide closed in November. Bayer Crop Science is proposing a Section 3 label in time for consideration of bloom application on citrus in 2015. Mr. Rackley reported that FDACS and EPA are working with the registrant to respond to the needs for this product for citrus bloom.

Project 8 – Candidate HLB Tolerant Rootstocks –

Dr. Browning reported that the announcement requesting grower cooperators was distributed widely through citrus organizations outlining the requirements of the trials. CRDF received a number of calls with inquiries and show of interest. Four letters of interest were received from qualified candidates, representing the Ridge and Southwest Florida growing regions. No letters of interest were received from the Indian River area.

Dr. Browning suggested moving forward with the Ridge and Southwest areas, and giving further time for consideration to the Indian River trials. Adjustments can be made if additional interest is shown.

Mr. Black made a motion that the committee defer to the Board for a decision based on management's recommendation of the Ridge and Southwest cooperator sites at the December 9 meeting. Seconded by Mr. Newlin, the motion passed unanimously.

Project 9 – RNAi and Psyllid Shield –

Dr. Turpen reported there are nine RNAi constructs that have shown positive results in preliminary experiments, with six of the nine showing no CLAs surviving in the treated trees. Planning is underway to design and seek approval for field testing of RNAi strategies.

He added that the meeting with Mr. Botts to discuss regulatory issues focused on three questions, two on specific antibacterial compounds and the third on the Psyllid Shield regulatory steps.

They will provide guidance as to the pathway to pursue for the new Psyllid Shield concept.

In other business, Dr. Browning reported he has been working with the brands to seek their perspectives surrounding the use of antimicrobials for HLB management in citrus and will share information confidentially with the Board.

Dr. Browning reported this committee will be polled for a meeting during the week before the January 27, 2015 CRDF Board of Directors meeting.

With no further business, the meeting was adjourned at 11:00 am

Minutes submitted by A. Nowicki