

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.
Commercial Product Delivery Committee
Meeting Minutes
April 17, 2014

A meeting of the Commercial Product Delivery Committee of the Citrus Research and Development Foundation, Inc. was held on Thursday, April 17, 2014. The meeting was properly noticed and recorded. The meeting was called to order by Chairman Ben McLean at 9:30 a.m. Roll was called and a quorum was present. Committee members participating were: Mr. Joe L. Davis, Jr.; Dr. Mary L. Duryea; Mr. David Howard; Mr. Ricke Kress; Mr. Peter McClure; Mr. Ben McLean; Mr. Jerry Newlin (telephone); Mr. Andy Rackley (telephone); Mr. Tom Stopyra and Mr. Hugh Thompson. Committee members Dr. Tim Anglea and Ms. Shannon Shepp did not participate. Other participants in the meeting were Mr. Dan Botts; Dr. Jackie Burns; Dr. Harold Browning; Dr. James Dukowitz; Ms. Diane Johnson; Ms. Audrey Nowicki, Mr. Brandon Page; Mr. Taw Richardson; Dr. Robert Shatters; Mr. Michael Stewart; Dr. Ed Stover; Dr. James Syvertsen and Dr. Tom Turpen. Mr. Doug Ackerman and Dr. Lisa Conti also participated by telephone.

Mr. Kress moved to accept the minutes of the March 18, 2014 meeting. The motion was seconded by Mr. Howard and passed unanimously.

Dr. Dukowitz summarized the meeting held with Mr. John Bell and representatives from Bayer CropScience in March, which included discussion of psyllid control, pesticide label changes, regulatory issues, soil microbials and new technologies, identifying action plans where Bayer can partner with the Foundation. Dr. Dukowitz indicated this is the first of several meetings with commercial businesses being scheduled to collaborate on HLB issues and what can be done to control the disease.

Dr. Browning introduced Mr. Brandon Page, who has been hired by UF to serve as CRDF Field Trial Administrator. His role will be to provide liaison to CRDF from the numerous field trials sponsored to deliver HLB solutions. These trials are addressing plant growth regulators, naturally occurring microbes, and will expand to include tolerant rootstock trials and other topics. Mr. Page will continue as IFAS coordinator of Citrus Health Management Areas, as he has for the last two years. Additional staff support will be added as needed to support CRDF field trials.

Mr. Taw Richardson, AgroSource, presented an update on Firewall® and Fireline® and their efforts to fight canker and HLB. AgroSource's submission of the Section 18 renewal of Firewall® for grapefruit targeting citrus canker is currently under review by the EPA.

AgriSource has indicated the need to evaluate HLB activity following Firewall® applications to grapefruit against canker, once the emergency label is granted. AgriSource has indicated that \$75,000 would be needed to accomplish this goal in the current citrus season.

AgriSource conducted previous discussion with CRDF regarding the readiness to submit a request for expanding the Section 18 SLN label to include targeting canker on round oranges. It was determined by

CRDF and our partners that insufficient information was available to support this in spring 2014, but requested a plan on what is needed to be more prepared for this consideration following the 2014-15 fruit season. Mr. Richardson reviewed this plan, requesting \$150,000 per year for two years to compile the economic and related data required to apply for registration.

Since November 2013, AgroSource has been investigating a full range of application methods in robust lab, greenhouse and field research experiments to reduce CLAs through application of antimicrobials. Results could allow for pursuit of a regulatory action leading to approval for grower use in three years, possibly sooner depending on the challenges with regulatory issues. Mr. Richardson outlined the objectives and work plan to evaluate several candidate materials against HLB, requesting \$925,000 per year for three years. This plan would include a range of parallel studies that might shorten the timeline, and would include Valencia and Hamlin field trials during this season.

Discussion topics that were pursued included the most rapid pathways to use of a material to reduce bacterial titer in the field, what are the application methods being evaluated, and how soon we would have meaningful information on the performance of any materials. Potential funding mechanisms also factored into this discussion.

A motion was made by Mr. Thompson to request moving forward with planning to include presentation and discussion of 1) detailed plan and budgets be reviewed by staff and the committee, 2) separate what is included in the request compared with all the things that need to be done, providing more clarity of the total cost of the program, 3) clarify responsibilities of CRDF and the group (EPA and IR4 discussions, including direct participation in the research program group by Foundation staff, 4) outline the major milestones and timeline to understand expectations and off-ramps for all concerned, and 5) develop relationship with IR-4 to seek assistance in residue studies and 6) Define the partnership with CRDF and indicate how this agreement will benefit CRDF and the Florida citrus industry as sponsors of a portion of this work. Seconded by Mr. Howard, the motion passed unanimously.

Dr. Turpen discussed status of antimicrobial, agricultural antibiotics, GRAS-like and non-antibiotic tetracycline derivative candidates being evaluated and moved forward by prospective partners as well as CRDF-sponsored research. A number of parallel paths are being pursued, but none are really ready for field trial at this point.

Dr. Dukowitz presented the renewal of Dr. Wang's Research Services Agreement #13-02 which expires April 30, 2014, requesting graft assay of an additional forty (40) samples of soil samples from survivor trees at a cost of \$88,000 over the next year. Mr. Davis moved to recommend funding the sampling of forty additional samples at a cost of \$88,000, and the motion was seconded by Mr. Stopyra. The question was raised why fund another 40 if the first 32 samples showed no significant difference. These initial tests, while numbering 32, were only representative of 6 or 7 locations in Florida, and there is need to look at more sites before determining that there is no value. The motion passed unanimously.

Dr. Dukowitz presented the renewal of the graft assay Research Service Agreement #13-01 in Fort Pierce for \$88,000 for evaluation of an additional forty (40) compounds. Mr. Davis moved to recommend

funding forty (40) additional compounds over the next year. The motion was seconded by Mr. Stopyra and passed unanimously.

Field trials - Dr. Syvertsen reported that a company is currently conducting their own tests on candidate antimicrobials, and that CRDF will develop plans and budget for expanding these trials to be presented at the next committee meeting.

Dr. Syvertsen reported that contracts are executed and the first application of naturally occurring soil microbes is being made in April at the three field trials located in the Indian River, Ridge and Southwest Florida areas to study commercially available products.

Dr. Syvertsen reported that data are being submitted from the 2013 plant growth regulator trials.

Dr. Syvertsen also updated the committee on the planned candidate tolerant rootstock field trials. Nursery trees have been budded of the 5 candidate rootstocks and 3 standards as controls, with the planting scheduled for spring of 2015 in grower cooperator groves across the state.

Dr. Turpen reported on the status of the nuPsyllid project. The Research Team Leaders provide quarterly reports which are posted on the CRDF web site. Progress has been made on the Effector Mechanism and Drivers System in three domains. He also explained that the Psyllid Shield, a mid-term project due to its regulatory structure, is advancing in parallel with the nuPsyllid project. He presented a proposal from Dr. Keesling and Dr. Lee, UF, for a 2-year study with a total cost of \$113,523 and year 1 cost of \$58,311 which will develop mathematical modelling to assist in designing the appropriate sized field evaluation of RNAi targeted against ACP and delivered by the CTV vector. After committee members debated the need, and whether or not this should be funded at this time or with Foundation funding, Mr. Davis moved that the proposal 'Mathematical Modeling to Evaluate Psyllid Shield Concept' be recommended to the Board for funding for the first year with the second year funding dependent on results of the first year. Mr. Kress seconded the motion and it passed with one dissenting vote, by Mr. Stopyra.

Mr. Botts from Third Party Registrations updated the committee on neonicotinoid insecticide labeling status, which is moving forward for a revised 24c labeling of the Belay® insecticide. With action taken by the state, this insecticide can be applied twice this year to 5- to 9-foot trees before November 1st with 6-month intervals between applications. Grower must have the crisis exemption label and the Section 18 label in their possession when the product is applied.

Dr. Browning updated the committee on the MAC activities related to the CPD projects with three projects being considered for contracting at this time: 1) strengthen antimicrobial evaluation and delivery; 2) scale up thermal therapy with prospective partners; 3) scale up *tamarixia* rearing in Florida, California and Texas intended to double the release of *tamarixia radiata* to abandoned groves. Other projects being considered for inclusion in the CPD portfolio include efforts to strategically remove CLas inoculum and measure the effects on the surrounding producing acreage; model new citrus planting; evaluate grove successes in the presence of HLB; and provide documentation of fruit characteristics in relation to HLB.

Dr. Browning reported that CRDF program and project management is being studied to redesign the management of the current portfolio. Committee and board members are encouraged to consider options and provide feedback on the document.

Dr. Dukowitz announced that the quarterly report is included with the meeting materials, with several of the projects having already been discussed throughout this meeting. Any questions can be directed to staff or addressed at the next meeting. Immediate questions were whether the antimicrobial field trials have fallen behind again, and how the selection of tolerant rootstocks for the upcoming trials was made.

In other business, the need for a May meeting was realized and Chairman McLean said the committee will be polled.

With no further business, the meeting was adjourned at 1:10 p.m.

Minutes submitted by Audrey Nowicki