

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.
Commercial Product Delivery Committee
Meeting Minutes
October 23, 2014

A meeting of the Commercial Product Delivery Committee of the Citrus Research and Development Foundation, Inc. was held on Thursday, October 23, 2014 at the University of Florida, IFAS, CREC, 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.; Dr. Mary L. Duryea; Mr. David Howard; Mr. Ricke Kress; Mr. Peter McClure (telephone); Mr. Ben McLean; Mr. Jerry Newlin (telephone); Mr. Andy Rackley; Ms. Shannon Shepp; Mr. Tom Stopyra (telephone) and Mr. Hugh Thompson (telephone). Committee member Dr. Tim Anglea did not participate. Also participating were Dr. Harold Browning; Dr. Jim Dukowitz (telephone); Mr. Brandon Page; Dr. Stephanie Slinski; Dr. Jim Syvertsen; and Dr. Tom Turpen. Also in attendance were Ms. Sharon Garrett; Ms. LeAnna Himrod; Dr. Janice Zale; and Ms. Audrey Nowicki.

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

Mr. McLean asked Dr. Browning to lead the discussion of active project updates. Dr. Browning stated that the format for the quarterly report on current CPD projects included with the meeting materials has been revised to focus on the latest information on each project to make it easier for committee members to assess progress. Questions are welcome from the committee during the discussion of any project. He related that discussion of progress on the September quarterly reports on the four antibiotic projects will be discussed in a closed meeting of the Foundation Executive Committee due to confidentiality terms in the contracts.

Mr. McLean asked Dr. Slinski to report on the progress of the antimicrobial strategies. Dr. Slinski summarized the September 11, 2014 IR-4 Antimicrobial Mini-Summit held in Atlanta, Georgia, noting that the report summary and web link were included in the meeting materials. A phone conference with IR-4 followed to reinforce the desire of IR-4 to partner with CRDF in pursuit of bio-pesticide and other project data collection and regulatory considerations.

A brief summary of the first ASI quarterly progress reports was provided, indicating that all projects appear to be on schedule.

Dr. Slinski reported that a meeting was held with NuFarm to discuss their plans for development of antibiotics against HLB, and how CRDF might participate. NuFarm hosted a tour of field sites evaluating antibiotic treatments, providing an overview of their efforts. NuFarm is scheduled to present information on their efforts to the Board of Directors for discussion of how CRDF can accelerate NuFarm progress.

Dr. Slinski reported on the effort to summarize antimicrobial candidates via a rating matrix. Categories for evaluation will include antimicrobial activity, performance against HLB, manufacturing and scale-up, IP, regulatory aspects, use cost and market adoption. A team of experts will assist in setting quantitative and

qualitative standards that will allow the side-by-side comparison of candidates in the matrix, both between and among categories.

A report was included in meeting materials that summarized the efforts to identify medical antibiotics that failed late in development and which might be re-purposed for use against HLB. The resulting candidate will be evaluated in assays to place it within CRDF CPDC priorities, and further efforts will be made to seek similar candidates in failed veterinary antibiotics.

Mr. Newlin asked if the NuFarm trials were conducted by private researchers or grower field trials. Dr. Browning responded that two trials visited on the tour are being conducted on commercial grower sites by crop consultants.

Mr. Black questioned the modifications to plans referred to in one of the ASI quarterly reports and whether or not staff was satisfied that they are not changing the scope and remain on track. Dr. Browning indicated that ASI recognized limitations in their submitted scope and made modifications. He also requested that any additional questions be forwarded to him for the Executive Committee to address with ASI and informed Board members they can attend the closed meeting.

Dr. Browning reported that the MAC funding group is considering a number of scale-up projects on Thermal Therapy: (1) An out-of-state harvesting manufacturer that builds over-the-row equipment for various crops proposed to adapt that platform for steam treatment; (2) Mr. Rex Clonts' proposal to build a sequence of large enclosures that can treat multiple trees at a time; and (3) Dr. Rheza Ehsani's proposal to refine single tree application characteristics using steam heat.

Dr. Browning presented for consideration a proposal by Dr. Kristen Pelz-Stelinski for a one-year project in the amount of \$105,782 to evaluate the ability of adult and nymphal psyllids to acquire the *CLas* pathogen following thermal treatment of infected trees. Mr. Kress made a motion to approve funding Dr. Pelz-Stelinski's proposal in the amount of \$105,782; Mr. Black seconded the motion. Mr. Newlin shared his concerns about why it is important to worry about the transmission and how it will benefit growers. Mr. Kress said the project is two-fold. Heat treatment of the trees takes care of the bacteria, but for how long? And does the psyllid pick the bacteria back up and re-infect the tree? It is important to know if steam-treated trees will be a local inoculum source. After further discussion the motion passed unanimously.

Dr. Syvertsen reported on the plant growth regulator (PGR) field trials. The results are included with the Committee materials. Results were not remarkable in three of the four trials conducted in later 2013-2014. Discussion of ongoing follow-up trials ensued. Dr. Syvertsen presented Dr. Albrigo's proposal to continue project #776, "Frequent Low Rate Application of 2, 4-D and Cytokinin to study plant symptom reduction in HLB", in the amount of \$68,430 for year 2. Dr. Albrigo is also including strobilurin treatments in this second year. Mr. Kress moved to approve the second year funding of Dr. Albrigo's project in the amount of \$64,230, which was seconded by Mr. Black. After much discussion of the results in Hardee County and request for additional data on the age of the trees, rootstock and soil type, it was also noted that with the changes in field conditions, weather and significant fruit drop last year, the second year studies can reinforce the results on all blocks. The motion passed unanimously. After further discussion it was recommended that Dr. Browning and Dr. Syvertsen contact Dr. Albrigo to discuss the next steps in continuing his 2, 4-D and fruit drop studies, choice

of sites, and including Valencia's, and be prepared to discuss with the CPDC prior to the December Board meeting. Mr. McLean stated for the record, the actual amount of the second year budget requested by Dr. Albrigo was \$68,430, and Mr. Kress stated his motion to support the continuation stands as revised.

Dr. Browning gave an update on neonicotinoids and ACP products, noting that petition for registration of Sivanto™ insecticide from Bayer CropScience is out for public comment until Saturday (October 25). While this product is being targeted for registration for a number of uses including citrus, it provides for a treatment at bloom time offering needed additional tools for ACP control.

Dr. Browning reported that much activity continues in the regulatory field, and that DACS is to be commended for its efforts in helping balance the needs of the bee industry as well as citrus growers.

Dr. Syvertsen reported the need to finalize and publicize the requirements for selection of grower hosts of candidate HLB-tolerant rootstock field trials. Several grower cooperators have expressed interest in the trials scheduled for planting in spring, 2015. Interested growers will be able to petition to act as trial hosts, and information on interested growers will be provided at the next CPDC meeting for action.

Mr. Black made a motion for Staff to compile the parameters for grower participation in the new rootstocks trials discussed by the committee, and place a request for growers willing to participate in the CRDF newsletter, and for Staff to collect responses and bring to the committee for selection. Staff should prepare an overview and rank of each of the applicants, with selection to be made by lottery or similar means from those meeting the requirements. Seconded by Mr. Kress, the motion passed unanimously.

Dr. Dukowitz reported on the diaprepes pheromone project, noting that challenges continue in finding co-investment partners for the technology developed by Dr. Lapointe. While four potential partners have been contacted to assess interest in participating, none have indicated commitment to this project. Dr. Dukowitz recommends parking the project until the technology advances or the market changes. Mr. Kress made a motion to suspend the diaprepes pheromone project at this time until there is commercial interest in co-investment of the patent. Seconded by Mr. Howard, the motion passed unanimously.

Dr. Turpen reported on a meeting he attended representing CRDF at the North American Agricultural Biotechnology Council which is comprised of land grant universities. The general topic of the national meeting was related to DNA editing, a new tool that may assist in developing disease-resistant crops. Dr. Browning reported MAC and NIFA SCRI processes are in the advanced review and decision-making stages. Likely by the December meeting details of approved projects will be available.

The quarterly CPD report was included in the materials for committee review. While not every project was discussed during the meeting, members are encouraged to review the written quarterly reports and forward questions.

With no further business, the meeting was adjourned at 11:45 a.m.

Minutes submitted by A Nowicki