CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.

Minutes of Board of Directors Meeting

July 22, 2014

A Meeting of the Board of Directors of the Citrus Research and Development Foundation, Inc. was held on Tuesday, July 22, 2014 at the Ben Hill Griffin Hall, Lake Alfred, Florida. The meeting was properly noticed and recorded. The meeting was called to order at 9:30 a.m. by President Tom Jerkins. Roll was called and all Board members were present, including: Mr. Bobby Barben; Mr. Larry Black; Dr. Lisa Conti (telephone); Mr. Joe L. Davis, Jr.; Dr. Mary Duryea (telephone); Mr. Tom Jerkins; Dr. Joe Joyce; Mr. Ricke Kress; Mr. Ben McLean; Mr. Jerry Newlin; Mr. Wayne Simmons; Mr. Bob Stambaugh; and Mr. Hugh Thompson (telephone). Also participating were: Dr. Harold Browning; Dr. Susan Logue; Mr. Taw Richardson; Mr. Mike Sparks; and Dr. Tom Turpen.

Also in attendance were: Ms. Sarah Anderson; Dr. Tim Anglea; Dr. Calvin Arnold; Mr. Dennis T. Broadaway; Dr. Jackie Burns; Ms. Tacy Callies; Mr. Aedan Dowling; Dr. Jim Dukowitz (phone); Ms. Sharon Garrett; Ms. Brandi Goller; Dr. David G. Hall; Mr. Ron Hamel; Mr. Mike Haycock; Ms. Leanna Himrod; Ms. Diane Johnson; Mr. Matt Joyner; Ms. Audrey Nowicki; Dr. Steve Rogers (telephone); Ms. Shannon Shepp; Mr. Michael Stewart; Ms. Callie Walker; and Mr. Mitchell Willis.

Mr. Kress moved to accept the Minutes of the June 12, 2014 Board of Directors meeting. Seconded by Mr. Stambaugh, the motion passed unanimously.

Finance and Audit Committee: Chairman Hugh Thompson reviewed the June 30, 2014 financial summary cash balance, revenues and disbursements as compared with the budget. The ending cash balance was approximately \$320,000 higher than anticipated when the FY 2014-15 budget was approved. July invoices to FDOC and FDACS General Revenue contracts will result in additional revenue. Outstanding invoices, start dates later than anticipated and residual amounts resulted in lower research and delivery expenditures during the fiscal year. Mr. Thompson moved that the Board accept the financial summary as presented. Seconded by Dr. Joyce, the motion passed unanimously.

Mr. Thompson reported that the field work on the FY 2013-14 audit being conducted by Bunting, Tripp & Ingley should be completed the first week of August, followed by receipt of a draft copy.

Long-Term Research Funding and Legislative Matters: Mr. Sparks reported that the \$21 million MAC funding has progressed to the second and third tier funding. Both Mr. Sparks and Dr. Browning are already attending meetings in Tallahassee on the funding request for FY 2014-15.

Board members will receive notice of a reception in September for Governor Scott and Representative Steve Crisafulli sponsored by FCM.

Governance Committee Chairman Bob Stambaugh introduced and welcomed Ms. Brandi Goller, the new CRDF Business Manager hired in July.

Research Management Committee: Chairman Bobby Barben referred to Dr. Browning who introduced Dr. Susan Logue to update the Board on the Knowledge Mapping process being organized by Tropicana and the collective citrus processing industry. The Planning Committee has selected the HLB host for the

first specific topic and is initiating the most efficient process to determine what is known and to identify gaps to find solutions. A 2 or 3-day workshop by invitation will be scheduled in September with the expectation to have a report to share widely within a few months. This pilot mapping exercise will focus on interventions in HLB disease management that are focused on the tree, including antimicrobial and thermal therapies.

Dr. Turpen reported on the progress of the 5-year NIFA nuPsyllid grant. A high risk project nearing the end of the second year, efforts continue on three parallel tracks to create a population of psyllids that are unable to transmit *CLas* bacteria. The entire administrative and research team will meet in February 2015 to discuss progress and future directions. At this time next year Dr. Turpen will report back to the Board on the progress and whether the original technical goals can be met during the grant period.

Commercial Product Delivery Committee: Chairman Ben McLean reported the Commercial Product Delivery Committee met July 1st and heard an update on research involving penicillin and an update from Dr. Hodges on what is being done at the FDACS citrus arboretum using penicillin and other antimicrobials to keep the germplasm resources alive.

Mr. Mark Lajeunesse, AgroResearch, provided information on the state registration of Thyme Guard for use against HLB.

The committee also heard requests related to the following Research Service Agreements for antimicrobial evaluations:

Mr. McLean made a motion to extend Dr. Triplett's UF Research Service Agreement #13-06 for one year to provide for continuing evaluation of up to 1,200 candidate antimicrobial compounds and combinations. No additional funding was requested. Seconded by Mr. Kress, the motion passed.

Mr. McLean made a motion to extend Dr. Gonzalez's UF Research Service Agreement #13-09 for one year to provide for continuing the rapid evaluation of up to 60 chemicals. No additional funding is requested. Seconded by Mr. Kress, the motion passed.

Mr. McLean made a motion to fund a UF Research Service Agreement for Dr. Wang's evaluation of up to 40 antimicrobial compounds against HLB using trunk injection in the amount of eighty-eight thousand (\$88,000.00) dollars. Seconded by Mr. Kress, the motion passed.

Dr. Browning updated the Board on the status of discussions with AgroSource (ASI), noting that progress has been made by both sides toward resolution of a form of agreement for the four (4) separate projects previously approved for contracting by the Board. Each will be a one-year agreement with an option for renewal on the multi-year projects. USDA is a partner in the projects through a Cooperative Research and Development Agreement (CRADA). The goal is to accelerate commercialization of HLB antimicrobial products for use by growers in HLB-infected citrus trees.

The discussion of the agreement form indicated areas where agreement had been reached, including each party's rights to pursue these and other antimicrobial strategies not covered under the agreement, reporting and participation in planning discussions, and other terms. The Cooperative Research and Development Agreement that is in place between USDA, ARS and ASI was discussed as a companion to

the CRDF agreement, as both parties will receive funding support through the pending CRDF project agreements.

Issues that have not yet been fully resolved prior to the Board meeting included the Foundation's request for most favored status, the Foundation's right to consent on exclusive licensing of discoveries made using CRDF funding, agreement on indemnification clauses, and dispute resolution measures.

The Board discussed with ASI whether the objectives of the project work plans can still be met during the current crop season. Mr. Richardson of ASI indicated that applications can still be made in early August on Hamlins which will allow time to make two applications, and have a 60-day pre-harvest interval in the trials. Sites have been selected and protocols have been outlined. ASI also indicated that they are still in a position to move forward with the regulatory work this season.

When asked about Mr. Richardson's statement in June that applications have already been made, he responded that some local trials are already in place, with applications made in June. Other site selections have been made and initial applications are pending.

Mr. McLean reminded the Board their mission is to speed processes to get solutions to the growers; Mr. Richardson had not planned pursuing these labels in this time frame, but has advanced planning and development due to the seriousness of the fruit drop growers experienced in the recent two seasons at the invitation of CRDF.

Mr. Davis made a motion for Dr. Browning to enter into an agreement with AgroSource as long as the 4 remaining differences are resolved and the contract is executed by August 1, 2014. Seconded by Mr. Kress, the motion passed with one dissenting vote by Mr. Thompson.

In the discussion on the motion that preceded the vote, Mr. Thompson suggested a clause providing for the right to audit ASI records pertaining to the projects funded by the Foundation. Mr. Davis indicated this is not a part of his motion, and no amendment motion was made.

The Board recessed for lunch at 11:55 a.m. and re-convened at 12:30 p.m. Roll was called and Board members present were: Mr. Bobby Barben; Mr. Larry Black; Dr. Lisa Conti (telephone); Mr. Joe L. Davis, Jr.; Mr. Tom Jerkins; Dr. Joe Joyce; Mr. Ricke Kress; Mr. Ben McLean; Mr. Jerry Newlin; Mr. Wayne Simmons; and Mr. Bob Stambaugh. Dr. Mary Duryea and Mr. Hugh Thompson did not participate. A quorum was present.

Dr. Browning updated the Board on discussions with Dr. Conti relative to FDACS' intentions going forward with antimicrobial materials, including penicillin. FDACS has indicated their interest and willingness to assist in moving forward with evaluation of penicillin, including their in-house ability to conduct GLP plant residue analysis. Discussions continue with regulatory agencies around the data requirements needed for consideration of HLB antimicrobials. CRDF, through Dan Botts, is attempting to schedule a meeting where all parties can be involved in discussion of the process and timetables for consideration of penicillin and other antimicrobial materials.

Dr. Browning provided an update on TIG's proposal to provide Florida-based antimicrobial project management which would provide hands-on daily operations and close consultation with CRDF-funded and outside antimicrobial projects. This Florida project manager will interface with current evaluations

and assays to advance promising candidates to field trials as quickly as possible and will keep the Commercial Product Delivery Committee and Board informed of progress.

The options for establishing a Florida-based antimicrobial project manager are: (1) accept TIG's proposal to provide project management via a TIG Associate, integrating the manager into the current strategy and management contract; (2) fund the position through a contract with UF; (3) find a contractor, individual or group, to be contracted independently by CRDF, or (4) hire an antibacterial program manager as a CRDF employee. Funding for the project manager has been approved in the FY 2014-15 operating budget at \$145,000 for salaries, benefits, and logistics. The Project Manager will report directly to CRDF staff, Commercial Product Delivery Committee and the Board.

Dr. Browning outlined reasons for recommending the TIG proposal by way of an amended contract. This option would provide the most rapid integration into ongoing antimicrobial projects managed by TIG, and will allow hand-off of project duties currently being handled by Dr. Turpen and Dr. Dukowitz, retaining TIG involvement and integrating with ongoing activities that will be continued by TIG. This proposal addresses desired daily management of antimicrobial projects and communication links to all parties, including researchers, commercial partners, growers and other constituents.

The current TIG contract will be amended to cover action by the board to include Florida Antimicrobial Project Management. Dr. Browning recommended that the Board approve TIG to recruit and integrate the Florida-based antimicrobial management consultant, which would also involve restoring the full retainer (\$4,000 per month) in the TIG contract for CPDC project management. Mr. Stambaugh made a motion to (1) amend the TIG contract to incorporate a Florida-based antimicrobial project manager, and (2) increase the TIG retainer to \$4,000/month. The motion was seconded by Mr. Kress. Following discussion clarifying the specific contract amounts, the motion passed unanimously.

Discussion followed on how turpenoids fit into HLB antimicrobial solutions. Dr. Turpen discussed that this is another area where more evaluation is needed, since the exact ingredients of the products being considered are variable over time. The advantage of pursuing these chemicals further is that some of these natural products appear on the EPA 25B exclusion list. They may not be optimized for controlling greening, and evaluations will continue. Dr. Browning suggested they could be included in the next field trial of antimicrobials.

Mr. Newlin stated that the industry lost time with the eleven InnoCentive[™] compound selections and expressed hope that the full-time antimicrobial project manager will identify compounds ready for field testing and start these studies as soon as possible.

Industry Research Coordinating Committee: Chairman Wayne Simmons reported that the committee met and established the industry gaps and specific priorities. Mr. Stambaugh moved to accept and approve the Gap Analysis as presented in the materials. Seconded by Mr. McLean, the motion passed. Mr. Simmons thanked Dr. Browning and staff for their efforts compiling the analysis.

COO Report: Dr. Browning reported the closing date of the NIFA SCRI \$25 million citrus disease program was July 18th for the submission of pre-proposals focused on HLB. Stakeholders and scientists will be providing reviews to be considered when determining which projects will be invited for full proposals. No additional information will be available until full proposals are reviewed and selected projects are approved for funding.

The MAC call for proposals is moving forward with an August 22nd deadline to submit ideas for controlling greening.

Dr. Browning reported that all of the citrus organizations have recommended reappointment of their current Research Management and Industry Research Coordinating Committee appointees with terms expiring June 30, 2014.

New Business: None

Future CRDF Meetings:

• Board of Directors meeting – August 26, 2014

With no further business, the meeting was adjourned at 1:25 p.m.

Minutes submitted by Jerry Newlin