



CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.

Minutes of Executive Committee Meeting

Tuesday, October 25, 2022

A meeting of the Executive Committee of the Citrus Research and Development Foundation, Inc. was held on Tuesday, October 25, 2022, at the Bert J. Harris Jr. Agricultural Center, 4509 George Boulevard, Sebring, Florida. The meeting was called to order at 10:00 a.m. by Chairman Rob Atchley. Roll was called, and a quorum was present. Executive Committee members present were Rob Atchley, Chris Gunter, Rick Dantzler, David Howard, Ron Mahan, Jeanna Mastrodicasa, Morgan Porter and John Updike. Also participating were Aaron Himrod, Mike Irey, Audrey Nowicki, Brandon Page, Joby Sherrod and Matt Story.

Mr. Mahan made a motion to approve the minutes of the August 11, 2022, Executive Committee meeting. The motion was seconded by Ms. Porter and with no discussion passed unanimously.

Chairman Atchley noted that the Board meeting for this date had been cancelled due to the extensive damage to groves from Hurricane Ian requiring everyone's attention, combined with the low crop forecast announced immediately before the hurricane. This Executive Committee was called in place of the Board meeting to discuss the current state of the industry and whether there is a need to re-evaluate what is working or not and the focus or direction going forward. Mr. Atchley asked each in attendance to share their opinions on the status of their groves and future direction.

Mr. Himrod said it is more important than ever to get the home run at this time, since there are not many at bats left.

Ms. Porter expressed the need for incentives to plant back. Considering walking away from all early varieties. Wondered what our researchers are working toward.

Mr. Mahan's greatest concern is the reduction in revenue resulting from the crop estimate and weather.

Mr. Howard summarized water damages in groves on the east coast and in Immokalee where they are still assessing losses from the weather. Having sixty thousand trees they won't be able to take, was uncomfortable giving a testimonial on what the future is at this time.

Mr. Story noted they were spraying Valencia with 2-4,D wide open now, in November and likely December. He summarized their early assessment of losses, and noted they would not plant back Hamlin.

Ms. Porter noted in their three Hamlin counts before the hurricane the 2-4,D trees were good, but just as bad as previously after the hurricane.

Mr. Sherrod said their worst areas affected were Charlotte and DeSoto Counties, they were still in triage, moving trees and dealing with insurance. They are actively fertilizing and back to spraying as usual, but the impact is significant.

Mr. Page reported that John Curtis' east coast site was relatively unaffected. He is seeing a little difference between treated and non-treated trees. At the Ridge site in Polk County, the Hamlins took a worse shot than Valencias.

Mr. Atchley asked Dr. Mastrodicasa and Dr. Gunter where does UF stand with what's going on in the industry. They want to be responsive to changes coming, with their priority to keep research going. Dr. Gunter assured him that faculty and researchers are still committed.

Ms. Nowicki reviewed the financial position, indicating that only about \$87,000 of the \$1.5M in new projects in the current year budget has been committed to date.

Mr. Dantzler discussed a potential 6-month extension of the legislative funding contract. He spoke with TJ Biotech, they indicated that they don't need funding. Expects there will be a large ask from the legislature for injecting oxy; there is significant grower support for it. Probably on a per-acre basis, initial discussion stage.

Another possibility for the \$1 million is helping CTV technology along. Had a conference call with Mike Braverman, IR4, and Mike Irey to discuss. What is required is for the Foundation or someone to make a request to CTV along. Once the request is made, Southern Gardens Citrus can be the go-between to complete the paperwork needed to move the process along; IR4 can help get it across the finish line. Outstanding research that may be required includes a bee study estimated to cost about \$4,000 and completion of a market basket study that has been in progress the last two years, with one year remaining at a cost of about \$150,000. He pitched the idea to two large companies who did not show interest, but a third party may have an interest.

Mr. Howard said the immediate problem is whether trees will continue to be planted and citrus survives. CTV is longer term; the focus should be to keep the groves in business. Plant improvement and long term research are not on the table at this time. We have to help those growers who are on the fence about staying in business. It may not be possible to take funding designated for research and use it for more CRAFT projects.

Mr. Dantzler said we can re-direct more funding to CRAFT for more large scale field trials.

Mr. Howard said there will be questions to respond to on oxy injection use to be studied.

Mr. Himrod said \$1M would cover 285 acres in CRAFT projects, nowhere near the 50,000 acres that are going away.

Mr. Dantzler stated that tens of millions of dollars in funding is being requested this legislative session to subsidize growers using oxy.

Mr. Mahan said the cost for oxy application is \$230/acre. Competition would help reduce the cost to growers.

Mr. Atchley asked when a response is expected from EPA on the label package. The decision should come at any time from Ms. Fried; the EPA has 90 days to object, but growers can use the product immediately.

Mr. Atchley asked what Southern Gardens is requesting at this time, what is needed for the December 13th board meeting, not being sure putting about funding into Southern Gardens Citrus.

Mr. Irey said Southern Gardens has no interest in taking this forward other than to help the industry and would share in a royalty settlement. IR4 is a great idea; the topic will die if someone doesn't step up and see the value and invest in it. They have the patents, need the market basket study. Mr. Dantzler suggested CRDF could make the request to IR4. Mr. Irey felt they would not take it unless someone will invest in it.

Dr. Gunter felt there should be a pathway to do some emergency re-planting and observe in an unprecedented way. There are plenty of trees available, growers lack the confidence to know it will be profitable. Mr. Howard said trees are affected all the way through the fifth and sixth year, keeping the fruit on the tree is the emphasis needed for growers.

Mr. Howard noted the CRAFT re-set projects using oxy on mature trees, and suggested funding research to study the effects on mature trees. Mr. Page said a proposal can be drafted to use other treatments such as PFRs along with oxy. Mr. Himrod agreed, noting it would be very helpful for growers.

Mr. Dantzler asked about the eight projects under consideration at this time, whether any could be game changers?

Mr. Dantzler summarized some of the projects currently being considered:

- Y. Lagos, Soilcea, CRISPR tree field trials showing tolerance, would agree to a royalty stream for the Foundation to recover their investment.
- Dr. Yongping Duan is proposing research where he discovered a virus present in escape trees.
- Dr. Nabil Killiny's project on sap chemistry works with an agro chemical company to mitigate effects.
- Dr. Manjul Dutt's projects on interstocks and Parson Brown trees.
- Dr. Amit Levy's project is injecting DDG, used in human health. The Research Management Committee requested additional compounds be included in the project.

Mr. Dantzler noted there are projects outlined in the Pathway document that are not funded by CRDF which include one on IPC's which was recently funded by NIFA. Dr. Mou's transgenics project just received a large CRISPR grant. Dr. Grosser's new technology in speed breeding received NIFA funding. The only project that has not been funded is micro-nutrients.

Mr. Howard felt CRDF should continue consideration of funding for the above projects, with the balance allocated to assist growers with oxy injections, and develop an RFP for game changers. He noted it would be important to have projects like the micro-nutrients ready to begin once the label is approved. Mr. Page also noted it will be necessary to study other materials to inject with oxy. In addition, Mr. Updike had previously suggested a project on predators, including building labs.

1. Get Board's position on IR4
2. Oxy label – list of questions to include in RFP or directed research
3. Proposed additional funding to CRAFT. Can CRDF allocate any limitations for the funding, i.e., re-sets?

The expected Diplodia explosion after the hurricanes was noted.

Mr. Himrod stressed that growers need some incremental gains that are absolutely immediate, or of it's going to take longer, has to blow growers away with results.

Mr. Dantzler said he gets questions from growers on CRISPR technology. He has asked Dr. Nian Wang exactly what he has learned, what is the data, what gene is identified? Dr. Mastrodicasa

may be able to help get these questions answered. The registration process must be started quickly or it will be too late. Can it be accelerated? What is the commercialization process?

Mr. Dantzler asked if CRDF is staffed properly, is there a knowledge gap? Should CRDF hire a geneticist? Dr. Gunter questioned why they would do that. Let's see where we are before we get a quarterback to coordinate. In the meantime, a round table discussion on the state of CRISPR and where we are now would be helpful.

Mr. Ireys suggested a need for regulatory expertise.

Mr. Page reported on the nearby Ridge site rootstock trial, noting that out of the 4,800 trees, thirty broke in half, and there is about a 30% loss.

There were no Public Comments. With no further business, the meeting was adjourned at 12:03 p.m.