

CALIFORNIA CITRUS NURSERY BOARD

Research Committee

Minutes of Meeting

December 9, 2016

Lindcove Research Center, Exeter, CA

A meeting of the California Citrus Nursery Board's Research Committee was called to order by Committee Chairman Don Dillon at 12:15 p.m. on Friday, December 9, 2016. Roll was taken showing a quorum was present with the following in attendance:

Members

Tom Delfino

Don Dillon

Leonard Massey

Roger Smith

Staff

JD Allen, Assistant Manager

John Gilstrap, Manager

Guests

Beth Grafton-Cardwell, Lindcove Research Center

Kris Godfrey, UC Davis

Irene Lavagi, UC Riverside

Heiner Lieth, UC Davis

Greg McCollum, USDA-ARS Fort Pierce, Florida

Tom Mulholland, Citrus Nursery Board

Chandrika Ramadugu, UC Riverside

Gary Schultz, Citrus Research Board

Georgios Vidalakis, CCRP-UCR

Vasiliki Vidalakis

Roy Yokomi, USDA-ARS Parlier

Minutes from Previous Meeting

On a motion from Delfino, with a second from Massey, the minutes from the meetings of December 11, 2015 and February 2, 2016 were unanimously approved as written, with no abstentions.

Financial Report and Budget Estimate

Gilstrap briefly reviewed the financial report noting the Board had a carryover into the current year of \$509,394, 2016 assessment income of \$386,357 and current year interest of \$3,000. He said total expenditures for the year will be \$321,456, leaving a carryover into 2017 of \$577,295. Gilstrap stated the 2017 assessment income would be about \$11,000 less than the current year, but with a larger carryover, he is anticipating additional funds available for research.

Research Proposals

The Committee heard reports from all of the active projects in 2016, and was presented proposals for 2017. All reports and proposals are available at the Board office. A list of the projects identifying 2016 funding and requests for 2017 was distributed (Exhibit A).

- Vidalakis reported his 2016 "pest cleanliness" project continues to protect the citrus industry by providing clean, high quality trees and propagative material. He said they continue to streamline their processes; optimizing barcoding system, standardizing swab tests for cross contamination and organizing and upgrading facilities and equipment. The proposed amount for 2017 is \$27,590 and represents a slight increase from 2016.
- Vidalakis reviewed his "high throughput diagnostic system" that he co-leads with Fatima Osman. He said there are still several basic questions that need to be resolved for a full scale commercial implementation of the system: 1) Streamlining and minimizing the chance for false results of the viroid, RNA virus and DNA pathogen developed methods; 2) Optimizing the time and frequency of sampling in regard to time of year, temperature and

tree phenological stage; and 3) Building a cohesive efficiently working system of sample collection, tracking, and processing, record keeping, data management, and reporting of results. He also noted that this is year 4 of 5 and that these last two years are required to complete the greenhouse experiment. Vidalakis was asked to revise his request for 2017 down from \$80,692 to \$75,000.

- Vidalakis reviewed the continuing request for funding a staff research assistant (SRA) at the Lindcove Research and Extension Center. As in past years, this Board would be funding half of Dr. Rock Christiano's salary and benefits in the amount of \$52,800, with the other half coming from the National Clean Plant Network.
- Lavagi reviewed her new proposal titled, "Optimizing the Timing and Plant Introduction of Transmissible Small Nuclear RNAs (TsnRNAs) for Dwarfed Citrus". She explained the development of dwarfed citrus can be critical in meeting the challenges posed by HLB, drought and labor costs. Further, commercial dwarfed trees are excellent candidates for high-density plantings and production under protective structures. The request for funding was \$2,200 for this initial year.
- McCollum is requesting \$35,505 for the third and final year of his project titled, "Early Detection of HLB in Nursery Trees Following Infestation with ACP"
- Leith said that because of the abrupt resignation of the technician on his current 2016 project, and the resulting stoppage of work, he is not requesting any funding. Rather, he would like to complete the current 2016 proposal in 2017 and ask for a "no-cost-extension" of the \$19,000 that was unexpended in the current year. The Committee asked, and received assurances, this type of event would not happen again. He said he will utilize semi-permanent staff and students in the future so that even if there is an abrupt stop by and employee, the project can still move forward.
- Grafton-Cardwell is requesting \$10,416 for her continuing project titled, "Annual Citrus Tristeza Virus Index at the Lindcove Research & Extension Center".
- Yokomi reviewed his new proposal titled, "Improved Sensitive Detection of the HLB and Citrus Stubborn Pathogens by New Gene primers for Real Time and Droplet Digital PCR Analyses". He explained the specific objectives are: 1) Develop and test new primers and probes for Improved quantitative Real-Time PCR (qPCR) and ddPCR; and 2) Validate sensitivity and inclusivity/exclusivity of new primers with field samples for qPCR and ddPCR. When asked how the budget would be affected if the Stubborn element was removed from the project, he said it would go from \$70,188 down to \$41,650 for 2017, and down to between \$42-43K during the theoretical year 2 budget.
- Ramadugu reviewed her proposal for the third and final year of her project titled, "Development of Rapid, Field-Deployable Diagnostic Assays for Detection of Huanglongbing-Associated Liberibacters". She said this final year of the project will about double the current amount as she has added the cost of working with DxDiscovery (University of Nevada School of Medicine Biotech startup) to perform several necessary activities, not the least of which will be to fabricate the dipsticks used for the rapid field tests. The request for the upcoming year will be \$50,000.
- Kris Godfrey reviewed a new proposal from Bryce Falk titled, "Improved Detection and Characterization of *Citrus Leprosis Virus* for use by California Citrus Nurseries". In light of the budget limitations and the general feeling that this proposal needed more focus, the Committee declined to recommend any funding.

Committee Action 12-9-16-1 On a motion from Smith, with a second from Massey, the Committee recommends that the Board grant a “no-cost” extension to Heiner Lieth, as requested, to complete his 2016 project during the 2017 year, with a total extended amount of \$19,000.

MOTION UNANIMOUSLY CARRIED WITH NO ABSTENTIONS

Committee Action 12-9-16-2 On a motion from Delfino, with a second from Massey, the Committee recommends that the Board accept the 2017 proposed projects as discussed, and outlined on the attached worksheet (Exhibit A), for a total of \$293,161.

MOTION UNANIMOUSLY CARRIED WITH NO ABSTENTIONS

There being no further business, the meeting was adjourned at 5:11 p.m.



I, John Gilstrap, Manager of the California Citrus Nursery Board, do hereby certify that to the best of my knowledge, the foregoing is a true and correct copy of the minutes of a meeting of the Citrus Nursery Board’s Research Committee held on December 9, 2016 at the Lindcove Research Center in Exeter, CA.



John Gilstrap, Manager



CALIFORNIA CITRUS NURSERY BOARD

2017 Research Proposals

CONTINUING PROJECTS					
Researcher	Project Title	2016 Funding	2017 Request	2017 Recommend	
1	Grafton-Cardwell Tristeza Indexing (ongoing)	12,301	10,416	10,416	
2	McCollum Early Detection of HLB Following Infestation with ACP (year 3 of 3)	37,400	33,505	33,505	
3	Lieth Optimization of Citrus Nursery Production in Screened Houses (year 3 of 4)	22,037	19,000	0**	
4	Vidalakis Staff Research Associate (ongoing)	*52,096	*52,800	52,800	
5	Vidalakis, Osman Implementation of High Throughput Diagnostic System (year 4 of 5)	88,305	80,692	75,000	
6	Vidalakis Citrus Nursery Stock Pest Cleanliness Program...(ongoing)	25,965	27,590	27,590	
7	Ramadugu Development of Rapid, Field-Deployable Diagnostic Assays for... (year 3 of 3)	26,000	50,000	50,000	
SUBTOTAL CONTINUING PROJECTS		264,104	272,398	249,311	

NEW PROPOSALS					
Researcher	Project Title	2017 Request	2017 Recommend		
8	Falk Improved detection and characterization of <i>Citrus leprosis virus...</i> (1 of 2)	60,911	0		
9	Lavagi Optimizing the timing and plant introduction of transmissible... (1 of 5-7)	2,200	2,200		
10	Yokomi Improved sensitive detection of the HLB and citrus stubborn pathogens... (1 of 2)	70,188	41,650		
SUBTOTAL NEW PROPOSALS		133,299	43,850		
TOTAL REQUESTED		405,697			
2017 TOTAL RECOMMENDATION		\$293,161			

*Paid from acct# 511. Not part of the research budget.

**Paid from unexpended 2016 project funds of \$19,000.