CITRUS ADVANCED TECHNOLOGY PROGRAM

QUARTERLY & FINAL PROGRESS REPORT FORM: Control of Citrus Greening, Canker & Emerging Diseases of Citrus

▶PROJECT QUARTER END December 2023 ● *Quarterly Report* ○ *Final*

Proposal Title

Developing near and long-term management strategies for Lebbeck mealybug (Nipaecoccus viridis) in Florida citrus

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
01/15/2024	Citrus Research and Development Foundation	Other

ABSTRACT (Executive Summary-public report-do not disclose proprietary information or intellectual property)

1. Please state project objectives and what work was done this quarter to address them:

1a. Develop monitoring tools to time management actions

Field trials were conducted in CUPS houses with active lebbeck mealybug populations. We cannot share progress on this subobjective in the current report as the researcher working on it passed away in December and we are waiting to gain access to his OneDrive where the data are stored.

2c. Determine what insecticides inhibit feeding

We continue to troubleshoot the methods to develop the baseline data for this subobjective. Because of the small size of the mealybug in comparison to other insects whose feeding interactions have been analyzed via EPG, we decided to explore a different wire option that should work better for conductance of the feeding waveforms. To that end, we have performed 20 replicates of 24 hour feeding behavior studies for both platinum wire (2.5 µm diameter) and gold wire (13 µm diameter).

We are currently identifying and annotating the EPG outputs for analysis. This should help us develop a clearer method for documenting baseline feeding interactions that will then be used to compare to feeding interactions once plants have been treated with a systemic chemistry.

NEW objectives

3- Have identified and set a research plan with one CUPS grower to evaluate insecticide efficacy in CUPS compared to outdoor settings.

2. Please state what work is anticipated for next quarter:

1a- We will continue work towards developing and evaluating a lure to help with timing of management.

2c- We will continue working on the feeding interactions with the goal of being able to evaluate impacts of insecticides.

NEW objectives:

3- CUPS- we will identify at least one more CUPS grower to evaluate insecticide efficacy in CUPS compared to outdoor settings and begin taking samples for this evaluation

4- Predators- Dr. Quinn will continue to rear and evaluate parasitoids in her laboratory for formal evaluation as biocontrol options.

3. Please state budget status (underspend or overspend, and why): We are on track with spending

4. Please show all potential commercialization products resulting from this research, and the status of each: lure may be a product to commercialize with additional work

Please note that the % completion of objectives is lower than previsou reports due to addition of new objectives

PI First Name Lauren

PI Last Name Diepenbrock

Email ldiepenbrock@ufl.edu

Phone 863-956-8801

Organization UFIFASCREC

Sponsor Project Number 20-002C

Project Duration (years) 4 *Year of Project* 3

% Completion of Objectives (FDACS requirement) 85.00%

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.