CITRUS ADVANCED TECHNOLOGY PROGRAM

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

▶PROJECT QUARTER END June 2024 ● *Quarterly Report* ○ *Final*

Proposal Title

Right Leaf Sampling-The first and most critical step to good nutrition program

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
09/09/2024	Citrus Research and Development Foundation	Horticultural & Management

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:

1. To determine how many leaf nutrient sampling per year are required to effectively capture the tree nutritional status and adjust fertilizer accordingly.
2. To establish the relationship of leaf nutrient concentration with yield, fruit drop, and canopy density
3. To determine how the leaf nutrient (all 14 nutrient) levels change in the tree throughout the year.
4. To evaluate how the leaf age affects the leaf nutrient status.

In this quarter our major focus was on analyzing the data. We have 3 years of dat from 4 sites which was collected every quarter. It is an enormous understaking. Another focus this year has been a small scale fertilizer trial based on the leaf nutrient results of fruiting and non fruiting branches.

The major findings so far are:

1. The results from nutrient profile comparison of fruting and non fruiting branch show that fruting branch have severe deficiency of macro nutients as the fruit matures whereas the micronutrient depletes in non fruiting branch as the season progresses. It is intersting to find that in many countries across the world, nutrient analysis is performed on fruiting branch as the growing fruit is major sink of nutrients. Thus, we believe it is imporatnt for FLorida citrus industry to know if fertilizing based on nutrients in fruiting leaf can benefit fruit production on HLB-affected trees.

2. Fertilization based on spring emrged leaf nutrient anlaysis influences yield. We have foun that ther fertilization based on spring emerged yield improved the yield by more than 20% and reduced the tree canopy decline by 15%. The data alos suggests that yield is directly correlated with postassium and boron content of spring emerged 6-9 month old leaves. This suggests that grower should emphasize on potassium and boron fertilization starting in July. Also, preliminary analysis suggests that age of leaf is more critical than time of year. Overall, it is quite obvious from this data that leaf nutrient analysis is a excellent tool available to growers for precision nutrient management.

2. Please state what work is anticipated for next quarter:
   1. Data analysis and interpretation
   2. Developing recomendations for nutrient analysis

3. Please state budget status (underspend or overspend, and why):
The budget is being spent as per the plan where major funds have been used for nutrient anlaysis.
We have also been able to hire staff for proper analysis and interpretation of data.

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Sponsor Project Number 20-011

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

% Completion of Objectives (FDACS requirement) 97.00%

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.