CITRUS ADVANCED TECHNOLOGY PROGRAM

QUARTERLY & FINAL REPORTS: Control of Citrus Greening, Canker & Emerging Diseases of Citrus

SELECT PERIOD September 2016

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Understanding and Manipulating the Interaction of Rootstocks and Constant Nutrition to Enhance the Establishment, Longevity and Profitability of Citrus Plantings in HLB-Endemic Areas

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
11/21/2016	Citrus Research and Development Foundation	Conventional Citrus Breeding

REPORT UPDATE (500 words-It is not necessary in this public report to disclose your institution's proprietary information or intellectual property.)

Objective 1. (Greenhouse experiment): seedlings of the required rootstocks: x639, Swingle, WGFT+50-7, UFR-3 and UFR-15 potted in round citripots were trained to a single stem for subsequent stick grafting (in our HLB approved air-conditioned greenhouse). Liners are now stick-grafting size, grafting will begin in February, when conditions support a good graft-take.

Objective III: To evaluate the effect of complete, balanced and constant nutrition on HLB-affected mature trees (composition, delivery and economics).

All the pretreatment and mid-year data on tree health, canopy volume, leaf nutrients analysis has been collected and is currently being analyzed. We have applied the fertilizer for year 1 at both the locations. The trees have received full dosage of fertilizer for macro and micronutrients. Data collection on fruit drop has started at both locations. Next fertilizer application will be made in February. April is anticipated harvest time.

Ojective 5. (funded by Orie Lee, using donated fertilizer products): Alligator Vernia/Rough Lemon Enhanced Nutrition Experiment – Treatments: 6 tree plots (randomized), 2 plots per treatment – treatments 2 times per year. The third treatment was applied as follows (using all donated products from TigerSul, Harrell's and Florikan). Permanent field plot signs were installed (w/ assistance from Frank Rogers).

1. Control – no extra nutrition
2. Harrells St. Helena mix (2lbs per tree)
3. Harrells St. Helena mix (2lbs.)+ 2x TigerSul manganese (90 gm)
4. Harrells St. Helena mix (2lbs.) + 2x Florikan polycoated sodium borate (32 gm)
5. Harrells St. Helena mix (2lbs.) + 2x TigerSul manganese (90 gm) + 2x FL sodium borate (32 gm)
6. 4x TigerSul manganese (180 gm)
7. 4x Florikan polycoated sodium borate (64 gm)
8. 4xTigerSul manganese (180 gm) + 4x Florikan polycoated sodium borate (64 gm)

Donated micronutrient treatments were also applied at the Hughes Post Office block (Haines City) - where there were yield increases ranging from a half-box to 3/4's box per tree this past season on 100% HLB-infected trees, enhanced by specific treatments, especially those containing both boron and manganese. Trees look exceptional at present, and we expect to see a yield increase for the 2nd year in a row since we began the study.

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Project Number 05-013

Project Duration (years) 3 *Year of Project* 1

Total Funds (current year) $125,520

Form PR-12 Quarterly Reports **SUBMIT REPORT**

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.