CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD September 2018

(●) *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)
11/09/2018	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): qPCR analysis was conducted on all trees to determine CLas titers. The combination of Valencia on WGFT+50-7 rootstock showed significantly reduced Clas populations, especially in Treatment #5 (Harrell's 12-3-9- St. Helena mix). Many plants of this combination in Treatment #5, and in a few other treatments showed no active infections (trees previously showing active infections). Lower numbers of trees of other combinations also showed reduced CLas titers; but all the data was just received, so the complete analysis is still underway. Evidence accumulating that nutrition can indeed suppress CLas titers.

Objective 3: Field trials of CRF/TigerSul blends:

- Use of CRF with tiger micronutrient seems promising - data recently presented to CRDF board at Arcadia.
- 20-50% higher rates of micronutrients seem to improve the fruit yields
- Soil applied fertilizer program seems to be beneficial for HLB-affected trees
- Nutrition does have an effect on fruit quality!
- Focus should be on constant supply of nutrients
- Either frequent application of conventional fertilizer or adding some amount of CRF is beneficial
- Uninterrupted fertigation is supported by data

Objective 5. (funded by Lee Groves, 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. Positive results showing a therapeutic affect from overdoses of manganese against HLB is being presented at the annual ASHS meeting in Washington DC, and a manuscript has now been submitted to HortScience. Another round of treatments was applied to the trees, although this round we substituted Florikan polycoated Mn for TigerSul Mn to get longer distribution.

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