# CITRUS ADVANCED TECHNOLOGY PROGRAM

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

**SELECT PERIOD** March 2014

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Understanding and reducing early root loss in HLB affected trees

| Today's Date | Sponsoring Organization (drop-down) | Category (drop down) |
|---|---|---|
| 6/4/14 | Citrus Research and Development Foundation | Infection Consequences |

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

Seasonal root sampling continues in two field sites for root density. Root cages have been installed at the second field site (Valencia) to compare the root growth dynamics in healthy and HLB affected trees with two sweet orange scions that have large differences in seasonal carbohydrate dynamics. Sampling has already revealed seasonal variation in root infections and apparent shifts in the root flush cycle caused by Liberibacter. The interaction between root growth and root density in Las infected trees is becoming clearer with continued sampling of root cages in the Hamlin block. The introduction of a Valencia block will provide insight if these dynamics are differ based on differing seasonal carbohydrate demands for fruit development.
As more of our healthy trees become PCR positive for Las it is increasingly difficult to find sufficient presumed healthy trees in the field. It is especially hard to find trees of sufficient age for seasonal root sampling. While field sampling continues, it will become more of a description of HLB affected tree decline than a comparison to healthy trees. Therefore, more emphasis will be placed on greenhouse experiments for direct healthy v. HLB comparisons as the project continues.

Sampling at a rootstock trial site is underway with a full year of data on the effects of HLB on these new experimental rootstocks. This has already begun to demonstrate how these new rootstock lines respond to Liberibacter infection. The most promising lines have been graft inoculated in the greenhouse and will be transplanted to rhizotrons to monitor root growth and death as soon as the graft success can be confirmed.


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*Project Number* 732

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

*Total Funds (current year)* $111,750.00

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.