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

Development of Supersour and Other Promising Rootstocks for Florida

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/15/2016	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.)

New rootstocks are appropriate for large-scale grower use when outstanding performance and yield have been documented by multiple statistically replicated trials over multiple years. Outstanding performance has been documented for US-802 and US-942 rootstocks over multiple years in trials affected by HLB, and these rootstocks are available in large numbers through commercial nurseries. Other released new USDA rootstocks with outstanding performance documented at fewer sites and harvests are also commercially available, and should be used for smaller scale plantings until there is more experience with those varieties. It is anticipated that at least one of the best new SuperSour rootstocks will be released for commercial use within 3 years, based on outstanding performance.

Field performance information is being collected on more than 400 new rootstocks in 17 different replicated field trials, include tree growth, tree health, fruit yield, fruit quality, and tolerance or resistance to HLB and other diseases. During this quarter, data collection was focused on tree size, health, and PCR evaluation of infection by Las. Data was collected from a replicated greenhouse trial to compare Valencia tree performance on the most HLB-tolerant rootstocks under optimum management conditions. The study will also follow field performance of trees on the most HLB-tolerant rootstocks in the first 1-3 years after they become infected with Las. Focused study in this trial will help to more clearly measure the ways in which tree performance is affected by HLB and estimate the economic viability of commercial production on the most tolerant rootstocks.

Trees in the USDA nursery on a large number of advanced rootstock selections, especially SuperSour-type, were continued in propagation for field trials to be planted in 2017. New trials in propagation continue to focus on sweet orange scion, but include some plantings to assess performance with new scions that have better tolerance to HLB. Nursery experiments were conducted with promising new rootstocks to determine nursery-related traits important for commercial use. Cooperative work continued with commercial nurseries involved with micropropagation, to facilitate more rapid deployment of the best new rootstocks. A cooperative project is underway with Dr. Ute Albrecht (UF, Immolakee), Agromillora and Rucks Citrus Nursery to compare trees on rootstocks propagated by seed, cuttings, and micropropagation, so that growers can have confidence that rootstocks propagated by the different methods will have equivalent performance.

A multi-year collaborative grant proposal was developed with the UF citrus breeding team and other UF and University of California researchers, and submitted to USDA NIFA to help fund expanded rootstock research and development efforts. Cooperative grant-funded work continued with UF researchers and a commercial nursery to propagate trees for use in multiple rootstock field trials sponsored by the HLB MAC program. Extensive information was provided, and cooperative planning for continuing rootstock testing and trials was begun with Catherine Hatcher.

An invited presentation on tolerance to HLB in rootstocks was made at the International Citrus Congress in Brazil. A new paper that was developed to provide a comprehensive comparison of field performance and nursery characteristics for USDA rootstocks with other standard rootstocks was accepted, and should appear in the October issue of the journal HortScience. This publication will be a valuable reference for use by growers and nurseries in planning for which

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.