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

Creation, Development, and Screening of Citrus Germplasm for Resistance to HLB and Citrus Canker (Core Breeding)

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
6/29/14	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.)

This project is built on the legacy of materials produced and field trials planted across the past several years. The objectives are to evaluate existing families and created germplasm in the field and in greenhouses for their responses to HLB and citrus canker, to carefully observe and document rootstock effects on severity and rates of progression of HLB symptoms, and to maintain the facilities and activities involved in the state-wide assessment of new scion and rootstock performance with a focus on HLB responses. Assessments of HLB field tolerance are continuously carried out in the vast collection of raw germplasm that we maintain, and new selections have been identified, and several previously found continue to hold up to HLB; additional evidence is accumulating supporting what may be differential sensitivity to HLB among sweet orange clones from the CREC program. We have essentially completed observations for the season on fifteen different individual rootstock trials planted throughout the citrus production regions of FL. These trials examine a diversity of rootstocks from the CREC program, as well as those introduced by the PIs from rootstock programs in California, Spain, Italy, and Argentina; scions cover the wide range of sweet orange varieties (commercially available as well as new CREC oranges), red and white grapefruit, and several fresh fruit varieties (including Minneola, LB8-9 (Sugar Belle), and N40W-6-3 (Seedless Snack). These observations were made in a quantifiable fashion, measuring tree growth, estimating severity of symptom expression and either estimating crop loads or measuring fruit yields (in 5 of 15). We continued monitoring those already identified healthy, albeit infected trees, on various rootstocks in different trials, showing high yields of normal fruit; some of these were included in the CRDF Rootstock Matrix, and it is noteworthy that they have continued to perform well. Seed fruit was harvested and seed extracted from 8 of the UF/CRDF matrix rootstocks (UF releases UFR-1, 2,3,4,5,6,15 & 16), and is being made available to the industry, through licensed nurseries. Seeds from Green #2 (now released as UFR-17) were made available. Additional materials and from the Rootstock Matrix list have been sent to the DPI PTP for STG and indexing, so certified materials can be made available to nurseries and TC companies for rapid increase of those trees for subsequent field trials and demonstrations. Seeds were harvested from more than 150 new rootstock hybrids, and they were characterized for seed production and polyembryony; of these nearly 50 groups were planted out for assessment of trueness to type, currently underway. New sour orange-like rootstocks have been found with tolerance to HLB, and seeds from 2 of these have been sent to nurseries for new trials to be planted next year. A triploid sweet orange hybrid (C4-16-12) was approved for release; this hybrid contains 8% trifoliate orange and has so far shown no sign of HLB. Two new sweet oranges, selected on the basis of earlier fruit maturity but with Valencia quality, have been entered into the DPI PTP.

PI First Name Fred

PI Last Name Gmitter

Email fgmitter@ufl.edu

Phone 8639568878

Organization UF-CREC

Project Number 539

Project Duration (years) 3 *Year of Project* 2

Total Funds (current year) $504,827.70

Form PR-12 Quarterly Reports SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.