CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD December 2013

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Evaluation of rootstocks appropriate for higher density groves and advanced citrus production systems leading to a sustainable, profitable Florida citrus industry

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
4/21/14	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.)

HLB's impacts have led to grower interest in advanced production and harvesting systems with the potential for early and sustainable yield, as well as ease of harvest and other management efficiencies. The goal of this project is to identify appropriate rootstocks among exiting field trials and those soon to be planted that are well suited to advanced citrus production and harvesting systems. Existing field trials previously planted with size-controlling rootstock candidates were monitored for tree growth and disease incidence, including the portion of the St. Helena project planted with dwarfing selections, and a 40-acre Hamlin/Valencia cooperative rootstock trial with trees planted between 300-500/acre. The latter planting is 3.5 years old, yield data were collected last season, and tree growth (height and trunk diameter) and fruit load estimates were recently made. Seed trees for selected dwarfing rootstocks, already showing good performance, were propagated and some were planted, to support expanded trials in the future. Additional new rootstocks from the CRDF Rootstock Matrix selected for their potential in high density plantings through good tree size control were entered into the DPI Parent Tree Program for cleanup by shoot tip grafting followed by indexing, to provide certified budwood of these rootstocks for commercial nurseries upon their release. Seedlings of some other Flying Dragon hybrids have come through the "HLB gauntlet" screening process (grafted with CLas-infected Valencia budsticks, and then cycled through a hot psyllid house, ending with no obvious HLB symptoms); these will be planted in the field, under a DPI permit for further observation. The McTeer OHS Sugar Belle trial tested 15 tree-size controlling rootstocks. This trial, planted in 2009, is nearly 100% HLB infected, yet about 85% of the trees are still showing a healthy appearance though fruit quality varies among different rootstocks. Visual assessment showed that rootstocks White #4 (UFR-5) and Orange #19 (UFR-4) were the healthiest trees, with no trees needing to be removed. White #4 (UFR-5) appears to be the best candidate for ACPS in this trial, as trees are very uniform in size, and have cropped well 2 consecutive years. Trees on Orange #19 (UFR-4) are larger, but took an extra year to crop. The somatic hybrid rootstock Sour orange+50-7 also showed consistently good health on smaller trees. Unfortunately, this trial was terminated prematurely because the property was sold for development. Seed were extracted from fruit of two new promising ACPS rootstock selections: somatic hybrid of Murcott + Rubideaux trifoliate; and tetrazyg Nova+HBPummelo x Cleo+Swingle. Seed may be used for larger scale trials.

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Organization UF-CREC

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