CITRUS ADVANCED TECHNOLOGY PROGRAM

QUARTERLY & FINAL PROGRESS REPORT FORM: Control of Citrus Greening, Canker & Emerging Diseases of Citrus

▶PROJECT QUARTER END October 2020 ● *Quarterly Report* ○ *Final*

Proposal Title

Use of compost and interaction with low- and high-vigor rootstocks to accelerate young sweet orange tree establishment and enhance productivity

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
11/12/2020	Citrus Research and Development Foundation	Horticultural & Management

ABSTRACT (Executive Summary-public report-do not disclose proprietary information or intellectual property)

1. Please state project objectives and what work was done this quarter to address them:

Objective. To determine the influence of compost during the first three years of tree establishment on growth, productivity, and root and soil health of citrus trees on rootstocks with different vigor-inducing capacity.

Leaf samples were collected for nutrient analysis. Leaf and soil nutrient data analysis was completed.

Significant differences between compost plots and no-compost (control) plots were found for several variables.

Leaf K concentrations were higher in trees on compost plots than control plots whereas the reverse was found for leaf Ca and B. None of the other nutrients were affected. A rootstock effect was measured only for leaf Mg concentrations which were higher in trees on US-812 compared with the other rootstocks.

Soil K, Mg, Ca, and B concentrations were significantly higher in the compost plots than in control plots; the reverse was found for Mn and copper. Compost plots also had a higher organic matter content, a higher CEC, a higher pH, and a higher base saturation for Mg and Ca than control plots.

Root cores were collected for root physiological (root respiration) and root structural analyses. Root length and structure was not significantly affected by the compost treatment, but some structural differences were found among rootstock cultivars. Root respiration was neither affected by the compost nor the rootstock cultivar.

2. Please state what work is anticipated for next quarter:

We will conduct the one-year horticultural measurements.

We will continue with the rhizospere sample processing.

The 2nd annual compost application will be conducted.

3. Please state budget status (underspend or overspend, and why):

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Organization UF/IFAS SWFREC

Sponsor Project Number 19-030C

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

% Completion of Objectives (FDACS requirement) 30.00%

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.