CITRUS ADVANCED TECHNOLOGY PROGRAM

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

▶ SELECT PERIOD December 2015

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Use of an early flowering gene in citrus to rapidly transfer disease resistance from citrus relatives into cultivated types

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
1/15/15	Citrus Research and Development Foundation	Transgenic/Metagenomic Mediation of Resistance

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

All of the research described in the previous report is being analyzed or active research is being transferred to a new grant from CRB. The one year study of the in vivo tracking of FT1, FT2, and FT3 in various citrus trees differing in age and phenotype is concluded and analyzed. There were some surprises. RNA levels of FT3, the FT homologue from citrus that other research by us and others indicates is most closely associated with flowering, were low in leaves at bloom time, whereas we expected high levels of expression. This may indicate that high levels of FT protein are produced at that time and sent to apices and mRNA is depleted. A study of CiFT3 transgenic tobacco plants treated with various growth regulators has been performed and the data is now being analyzed. The growth hormones produced striking and individually different phenotypes in each treatment. The data includes plant height and leaf number, size, and area. The endogenous ciFT3 promoter from sweet orange was successfully cloned to be used in the transcription activator-like (TAL) effector system inducible by methoxyfenozide that will hopefully activate the naturally present FT3 gene in citrus. Large numbers of citrus seeds are being germinated for transformation studies with this construct.

PI First Name Gloria

PI Last Name Moore

Email gamoore@ufl.edu

Phone 352-273-4786

Organization University of Florida

Project Number 573

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

Total Funds (current year) $100,970.00

Form PR-12 Quarterly Reports SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.