CITRUS ADVANCED TECHNOLOGY PROGRAM

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

SELECT PERIOD March 2016

(●) *Quarterly Report* ( ) *Final*

Proposal Title

Correlating pesticide residue analysis with psyllid feeding to improve protection of young trees

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
2/15/17	Citrus Research and Development Foundation	Vector Management

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

Report for period ending 3/2016

During this reporting period we setup an series of growth chamber experiments to evaluate effect of seasonality on neonicotinoid uptake by citrus trees in the laboratory. This is being done to determine if there is any effect of season and/or transpiration rate to neonicotinoid expression in citrus foliage for each of the three neonicotinoid chemistries. Citrus (v. Hamlin / r.s. Swingle) was planted to 3-gal pots containing a custom soil blend (50% sand, 50% potting media). Potted plants were divided between two growth chambers with unique environmental conditions: 1) winter-like conditions characterized by low temperature, short day length, dry soils, and low light intensity (reflect January 30-year average in Immokalee, Florida), and 2) summer-like conditions characterized by high temperature, long day length, wet soils, and high light intensity (reflect August 30-year average in Immokalee, Florida). Plants in each growth chamber were arranged in a randomized complete block design (RCBD) with 4 treatments and 4 replicates. Each plot consisted of three citrus trees. A single insecticide application was made to the soil using 8 fl oz of insecticide solution per tree. Leaf tissue samples (n=6 leaves per tree) were collected weekly until 4 weeks after application. Leaves were excised to differentiate concentrations between the leaf center and leaf margin. In addition to quantifying neonicotinoid expression, the transpiration rate of 4 individual trees were measured in each growth chamber using a Dynamax Sap Flow meter system. A single tree from each treatment was represented in each growth chamber. The initial and final canopy volume and stem diameter for each of the 8 trees was recorded.

PI First Name	Michael	*Organization*	UF
PI Last Name	Rogers	*Project Number*	15-036C
Email		*Project Duration (years)*	*Year of Project*
Phone		*Total Funds (current year)*	

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.