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

Improved fungicide control measures for pre- and post-harvest management of citrus black spot (CBS)

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
5/15/2016	Citrus Research and Development Foundation	Epidemiology and Cultural Control

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

April 2105

The objectives of this proposal are 1) Determine the base line level of Guignardia citricarpa sensitivity to fungicides registered for disease control in citrus and evaluate new products for efficacy against G. citricarpa in vitro; 2) Conduct and improve implementation of spray trials for efficacy of registered products for citrus and to evaluate novel compounds in the field; 3) Optimize field evaluation of control measures through analysis of the spatiotemporal disease progress utilizing past and current field data of the outbreaks to gain knowledge on the incidence, severity and rate of the epidemic and assess the fungal population to increase the likelihood of successful field research and 4) Evaluate products and treatment conditions for postharvest control of citrus black spot.

This quarter we accomplished:

Objective 1: Manuscript preparation continues for the DMI fungicides. The spore germination experiments for Cannonball and Vanguard are near completion and the data will be analyzed soon. The assays for the SDHI fungicides have been completed and the data are being analyzed and manuscript prepared. Molecular characterization of the SDHB, C, D is underway.

Objective 2: CBS was assessed by two methods. On 21 Dec 2015, 21 Jan 2016, and 18 Feb 2016, fruit on trees were assessed by holding a m^2 frame to both sides of three center trees in plots and counting the total number of fruit within. The number of symptomatic fruit with CBS lesions was counted within the same the same square meter. Percentage of fruit with CBS was calculated from the number of symptomatic fruit divided by the total number of fruit. The number of fruit on ground was assessed on 29 Jan 2016. Dropped fruit was counted under the canopy on the ground of the middle three trees within plot and scored for presence or absence of CBS lesions. The number of fruit with CBS lesions were added to the number of fruit without CBS lesions to get a total fruit drop and then the percent fruit with CBS was calculated.

Objective 3: No update for this objective was given by Co-PI in charge despite requests.

Objective 4: The volatiles from ClO2 in liquid or crystal form were tested to see if they inhibited mycelial growth of G. citricarpa. Both liquid ClO2 and powder ClO2 volatiles at 100 µL/L inhibited mycelial growth of G. citricarpa. Liquid ClO2 inhibited mycelial growth by 73%, and powder ClO2 inhibited mycelial growth by 79%. Liquid ClO2 or powder ClO2 volatiles at 50 µL/L did not inhibit mycelial growth of G. citricarpa. Another essential oil containing product, Genysis (0.4% v/v) was added to media and the effect on mycelial growth was observed. The product Genysis inhibited mycelial growth of G. citricarpa by 81% after 14 d incubation.

We are making preparations for the final report.

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Organization CREC-UF

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

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.