# Florida Citrus Advanced Technology Program

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

**Instructions** Complete the fields based on your project specs. When finished, save the form to your local disk using a unique name. Then, go to **http://research.fcprac.com**, and log in with your user name and password using Researcher Login in the lower left. Find this project title and click on **Submit a Report**. Update your profile information if needed, then upload this report as directed.

| 2009-2010 REPORT | CATEGORY (drop-down) | TODAY'S DATE (m/d/yr) |
|---|---|---|
| ◉ *Quarterly Report* ○ *Annual Report* ○ *Final* | Management | 10/15/09 |

**WHAT IS THE "HEADLINE" FOR THIS REPORT (e.g. a one-sentence "newspaper headline" describing what you accomplished)**

**TITLE and CONTACT INFORMATION**

*Proposal Title* Strategies to minimize growth flushes of mature citrus trees with pruning practices and plant growth regulators to reduce psyllid feeding

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| *Phone* 863-956-1151 | *Project Duration (years)* 3 *Year of Project* 1 |
| *Organization* CREC | *Total Direct Funds (current year)* $137,539 |

**REPORT UPDATE (650 words; provide details about your headline)**

Reducing the amount of vegetative growth produced annually by citrus trees in Florida would reduce the opportunities for Asian citrus psyllid reproduction and thereby the spread of Hunaglongbing. This could be done in citrus without detrimental effects on yield because citrus trees in Florida produce an excess of leaves above that required to support maximum fruit yield. Excess tree growth is routinely controlled through hedging, but little research has been done to examine the effects of hedging on vegetative growth. Recent research in Florida has shown that branch re-growth can be reduced when hedging is performed in fall under Florida conditions because of the onset of cool temperatures. Additionally, research in Florida indicates that late-summer hedging may be able to synchronize a final late-season flush and thus, reduce new flush leaves present during the winter to support over-wintering psyllids. In other fruit crops, such as apple, where excessive vegetative growth can be problematic plant growth regulators (PGRs) are routinely used. However, the use of PGRs in citrus has been limited to influencing fruit development and for maintaining post-harvest quality. PGRs not only control vegetative growth, but also offer the potential to reduce insect pest populations either by reducing pest-required vegetative growth or by altering host plant metabolites or nutrition. A greenhouse trial of six different plant growth regulators and their effects on citrus tree growth and psyllid oviposition has recently been completed. While data analysis on this trial is not yet complete, early indications are that four of the six PGRs successfully reduced the growth of citrus trees and the products had varying effects on psyllid behavior, from dramatically reducing oviposition to increasing oviposition. The results of this trial are very promising and future trials are being designed to build on these findings. In addition, a wide range of PGRs are being screened in ongoing greenhouse trials for toxicity and other adverse effects. These data will be used in designing field trials during spring 2010.