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	7/5/09

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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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. In addition, some PGRs have been shown to enhance pesticide efficacy. The PGR prohexadione calcium (Apogee, BASF Corp.) has also been shown to be effective at reducing vegetative growth of potted citrus seedlings under greenhouse conditions. Apogee was capable of reducing extension growth of shoots by more than 50%. Psyllid ovipostioning was also reduced by approximately 50% on Apogee treated seedlings compared to untreated control plants, but variation was large and obscured statistical differences.

A 16-acre research block, managed according to standard commercial practices, has been designated at the CREC for further field evaluations of various PGRs and hedging treatments. In addition, plants have been obtained from commercial citrus nurseries to begin greenhouse screening trials to determine efficacy of a variety of different PGRs. The first data from these two trials will be reported in forthcoming reports.