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	1/15/10

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

Herbicides can kill HLB infected and abandoned trees for better disease control

TITLE and CONTACT INFORMATION

Proposal Title Elimination of HLB infected trees without physical removal through application of herbicides

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Phone (863) 956-1151	*Project Duration (years)* 2 *Year of Project* 1
Organization Citrus Res. & Educ. Center, IFAS, UF	*Total Direct Funds (current year)* $43,918

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

Fall tests of herbicide applications to trunks continued into the winter. Efficacy of alternatives to 1 1/2 inch hatchet blade cuts are being evaluated. Spring and Summer tests, when trees are more difficult to kill, are critical for this testing.

An electro-hydraulic mechanized tree trunk incision clamp system was developed and tested first on a 4 X 4 ATV, and later transferred onto a utility tractor to assist with weight distribution and hydraulic power source issues. Also, to deal with operating stresses, the clamp system was revised to incorporate a larger bore cylinder and a lesser resistant serrated clamping mechanism. The increased force from the larger cylinder made it necessary to build components from heavier materials. Also, due to fluctuating tree trunk shapes and sizes, the clamping mechanism wasn't able to consistently contact the tree without shearing pivot point components. Further testing identified the need to decrease the system weight and to create a lesser resistant means for making tree trunk incisions, in order to become an efficient system. A less-resistant methodology consisted of changing the system function for the cutting mechanism. These changes compensate for the trunk size and shape variances and will allow reductions in system weight. Recent orchard tests have indicated the cutting mechanism functions with less resistance and it is more consistent in performance and efficiency. The spray system was added to provide a complete prototype and several trees were treated with either undiluted or 1 to 1 diluted Arsenal solution. The efficacy of the complete system in these treatments will be evaluated over the next 4 weeks. Full evaluation of the system needs to occur during the spring-summer when trees are more difficult to kill. We are now asking CRDF for guidance on issues about patents and a manufacturing agent for the machine.

The results of the 600 acre aerial spray test applied by South Florida were reported last quarter. The one area not completely killed will be evaluated this quarter. Aerial sprays treatments to the additional 40 acres of abandoned grove at this site has been delayed until some issues on chemicals to be tested are resolved. It is still planned to have 4 treatments with 2 replications (5 acre plots) in order to evaluate selected chemicals. Work on use of the soil fumigant, Midas, has also been delayed until the parent company can make their representatives available to continue the tests. Apparently, they are currently involved in testing their product on vegetable sites. They expect to be available by early spring.