

# Field Research of Interest to Citrus Growers: How Do We Know These Practices Work?



*By Harold Browning*

The 2012-13 citrus harvest season has focused attention on the health status of existing citrus trees throughout the state, and the uncertainty that this population of producing trees will survive and remain productive to adequately supply the industry's fruit needs. At present, tree attrition due to all causes exceeds replanting rates, and thus, there is more pressure on maintaining the potential for fruit production.

We all can envision that the ultimate solution to HLB for the industry is to reach a point where tools are available to replant with HLB-tolerant or resistant plant material, and to maintain tree health for a period long enough to ensure production and positive return. Some of these tools are available now, but work continues to provide the long-term solutions.

Meanwhile, the citrus industry is demonstrating its resolve through replanting efforts around the state, and the recent announcement of plans to enable significant new plantings provides optimism for maintenance of yield potential in the industry.

A number of practices have been discussed, tested by growers in the grove, and promoted for their potential to retain or restore health to infected groves. CRDF Research and Commercial Product Delivery Programs were established with the flexibility to respond to opportunities, and often are asked to provide support for these practices or materials. This is accomplished through evaluation of the particular technology or material, what is known of its effects, and what can be done to further understand if and how it can affect HLB health. In most cases, these practices or materials have been tested in other crop systems or in other countries, or are new enough that there are not adequate field tests to determine their value. CRDF has been most often asked to assist in "proving" that the approach is worthwhile and should be broadly adapted. While grower trials are relatively easy to set up, they often are not conclusive, and thus, controlled field experiments must accompany these demonstrations to understand cause and effect.

CRDF is planning for the new budget year and the opportunities that are provided with the pending support from the Florida Legislature. Among the topics being evaluated for enhanced attention and support are:

- Larger scale grower field trials of candidate HLB-tolerant rootstocks
- Effects of plant growth regulators on citrus vascular (phloem) health and fruit drop
- Identification and characterization of field survivors of HLB in declining groves
- The complex interaction of nutrients, soil characteristics and other variables on HLB infection and root health
- Screening of anti-microbial materials to reduce HLB bacterial titer in infected trees
- Utility of solar thermal therapy to reduce infection in diseased trees
- Continued improvement in asian citrus psyllid management in mature and young trees
- Fine-tuning of general cultural practices to promote health in infected trees
- Reducing tree stress factors that magnify or are magnified by HLB (e.g., Phytophthora)

CRDF currently is sponsoring research projects on all of these topics, and provides updates to the industry through the posting of quarterly progress reports on all projects and quarterly reports from the Commercial Product Delivery Program. However, with the potential for one or more of these practices or materials to have more immediate impacts on HLB management, we are looking for ways to accelerate efforts to better understand their value when the new funds are available.

*Harold Browning is Chief Operations Officer of CRDF. The foundation is charged with funding citrus research and getting the results of that research to use in the grove.*

