to insecticides among populations of ACP can change in a short period of time, and that regular monitoring is useful for understanding these trends.

There has been significant improvement in ACP management in Florida since 2005, when HLB was first detected here. A proposal for coordinated insecticide sprays was introduced to the Florida citrus industry in 2008. Attempts to begin coordinating insecticide sprays began around this time. In 2010, the National Academy of Sciences proposed development of CHMAs, which are working effectively today. These cooperative teams of citrus growers located within close proximity of one another coordinate their psyllid management sprays and have significantly reduced ACP populations over the years. The coordination of treatments is meant to enhance insecticide use against ACP by preventing rapid reinestation by psyllids from non-sprayed areas. By the end of 2010, there were 10 CHMAs established. Our 2010 survey was conducted during that inception period of CHMAs.

From 2013 to 2014, there has been a progressive drop in resistance observed among ACP populations in Florida. In fact, based on our sampling capabilities, it appears that since 2013, we have returned to pre-2009 levels of ACP insecticide susceptibility across the state. The number of active CHMAs has risen from the initial 10 to a current 52. We can hope that coordination and effective rotations of insecticides for ACP have contributed to this decline in resistance. However, given that we know up to 4,000-fold resistance to the very important neonicotinoid insecticides can occur in ACP populations, we must remain vigilant by rotating MOAs and monitoring resistance.

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Meeting Challenges, Moving Forward
By Harold Browning

We all recognize that the Florida citrus industry is facing one of the most serious challenges it has dealt with in decades. The introduction of an insect-vectored bacterial disease that can attack both rootstocks and scions of virtually all commercial cultivars, which leads to chronic decline after years of infection, is on everyone’s mind all of the time. The monumental efforts of growers and the industry as a whole to respond to this challenge can be considered unprecedented.

The August Citrus Expo is one of many annual meetings where results of ongoing research and delivery of solutions can be communicated. This happens via the two-day educational seminars as well as numerous exhibitors and displays where solutions to growing citrus in the presence of HLB are presented. This year was no exception, with the theme of the Expo being “Meeting Challenges, Moving Forward.” With a sold-out exhibit hall and robust educational program, attendees were provided with the latest updates on topics surrounding HLB management.

Also in parallel with CRDF organization and investment, the educational program focused on the targets for intervention among the insect vector, the pathogen and the tree. Sections of the program addressed above-ground treatments and issues, soils, the impact of HLB on root systems, and eventually focused on considerations for new trees. We recognize that success with HLB will require maintenance of tree health for those trees out there in the industry, and the need for their productivity to remain viable until newly planted trees can reach maturity. Thus, the objectives are split between these two goals.

Topics of importance at the Citrus Expo seminars included:

Canopy and Fruit Issues
- Economic benefits of citrus health management areas
- Rationale for removal to manage disease spread — looking to the future
- Progress with Florida Department of Agriculture and Consumer Services Multi-Agency Coordinating Group inoculum removal project
- What harvesters are seeing across the industry

Product Solutions Research for HLB and Citrus Canker
- Current progress of CRDF Commercial Product Delivery Committee field trials for managing HLB and canker
- What has been learned with root systems and HLB
- Grower perspective on treatment of root systems to manage tree health

New Plantings
- Current status of Florida citrus nurseries and inventory
- Tolerant rootstocks for pest and disease management
- IFAS sweet orange varieties: the licensing process, challenges and opportunities
- Progress using thermotherapy to rejuvenate HLB-diseased trees
- Motivations and approaches to pest and disease management used by growers who are replanting

Growers wanting to know what their research investment is achieving need only participate in meetings such as the Citrus Expo, Annual Citrus Growers Conference, Florida Citrus Growers Institute and the many University of Florida/IFAS Extension meetings, field days and state and regional grower meetings to realize the intensity of effort, commitment and success in bringing forth new solutions. The pace is slow, but the quest continues, and the Florida industry investment is paying off.

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.

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