



REPORT

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Asian Citrus Psyllid Suppression and Issues Surrounding this Important Element of HLB Management

The Florida citrus industry is greatly challenged in managing the severe implications of HLB as it continues to bring increased costs and tree health decline to Florida groves. Among the most important goals for HLB management is control of the vector, Asian citrus psyllid (ACP). Through season long suppression of ACP, growers hope to slow disease spread from infected to uninfected trees, particularly those vulnerable young trees planted either as resets or as new solid blocks to replace trees declining from the disease. We all remember pre-HLB pest management programs that allowed selection of low-impact pesticidal tools that targeted the specific pest or disease target, and recall also the infrequent applications needed to maintain citrus tree health and fruit quality. A measure of the seriousness of HLB and the persistence of ACP is the need now for applications of pesticides across the year to keep even low numbers of psyllids from transmitting the bacterium responsible for the disease. The selection of materials, frequency of application and ultimate cost to suppress ACP has increased, and we may not have yet reached levels that can fully protect new trees from ACP and HLB disease.

The issue has become even more complicated by the need to apply ACP control tools in and around the citrus bloom period in late winter, when emerging leaf flushes are vulnerable to attack by ACP. Balancing the need to protect this critical period from disease transmission is the risk to honeybees which forage for nectar during bloom. As with other aspects of the HLB situation, research scientists have been responding to these needs since the Florida psyllid was first detected in 1998. While it was not necessary to treat for ACP prior to detection of HLB, research responded early to identify materials that were effective against ACP. Further, and the annual process conducted by UF, IFAS extension to review and update recommendations for citrus pest management has included best available practices for insect pests, including ACP. Recommendations from IFAS highlight effectiveness of materials against the target pests as well as other pests, and also take into consideration the other de-

UPCOMING MEETINGS

January 2014

TBD	Governance Committee		
TBD	Fiance and Audit Committee		
TBD	Commercial Product Delivery		
28	Board of Directors	CREC, Lake Alfred	9:30 am

tails of their use, including re-entry and post-harvest intervals following use, and finally impacts on beneficial insects, including honeybees.

In a proactive manner, the Florida citrus industry and the citrus researchers have been attempting this balance, and as the pressure to control ACP has increased, so has the concern over this bloom period. Many groups have responded, and among them CRDF, who has been working with the Florida Department of Agriculture and Consumer Services (FDACS), with the U.S. Environmental Protection Agency (EPA), with IFAS scientists, and with registrants to support availability of additional tools for ACP during this critical challenge to sustained citrus production in Florida. As new materials are added to the arsenal, these groups are communicating about how best to steward the products in a way that preserves the desire of beekeepers to place hives in locations where honeybees can forage the citrus blossoms. Progress has been made over recent months, and with assistance from the Commissioner of Agriculture and his department, citrus growers and beekeepers have been meeting to discuss practices that each can implement to help reduce the risk of negative interaction between necessary citrus pest management practices and the honeybee foraging during citrus bloom.

As we approach the 2014 citrus season, these practices will be communicated through grower meetings, through UF, IFAS educational activities and recommendations, and through enhanced communication from everyone involved in this complex interaction.

CRDF and the citrus industry had a chance to interact with Dr. Steven Bradbury, Director of EPA's Office of Pesticides Programs during his recent travel to Florida. Dan Botts with FFVA coordinated the agenda that included grove

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visits in the Indian River region and Southwest Florida, and also involved roundtable discussion with growers and CRDF representatives regarding the challenges of responding to HLB. Specific discussion of ACP management and interaction with honeybees occurred in this setting, which also involved local beekeepers and FDACS bee inspectors. Dr. Bradbury discussed the Agency's approach to encourage those developing new technology to communicate early and regularly with EPA and the other relevant agencies regarding potential regulatory processes involved in deploying the technology. CRDF is advancing solutions to HLB that include pesticidal materials against ACP, antimicrobials targeting the CLas bacterium, and potentially tolerant or resistant trees that may require regulatory clearance. The next meeting opportunities are being discussed to keep EPA abreast of research progress and to seek guidance as we move forward through the Commercial Product Delivery process.

CPDC and Board Meeting Updates from December

The Commercial Product Delivery Committee (CPDC) met in December prior to the December 10th Board meeting, and the topics discussed at the CPDC meeting focused on the planning for field trials of HLB solutions that are emerging to address short- and intermediate-term goals. High among these agenda items were the initial field trials of candidate antimicrobial materials that are being designed for installation in spring, 2014. Results from a range of research projects focused on identifying materials that might suppress CLas titer in infected trees are being incorporated into these early trial designs, and discussion at the meeting focused on timetables and goals for these first trials.

Similar discussion occurred with reference to expanding the evaluation of plant growth regulators and the role that they might play in restoring phloem health and preventing pre-harvest fruit drop in HLB-infected trees. A number of trials are underway this season, and the discussion focused on how best to build on these ongoing projects. Discussions with those involved in the current trials have identified a range of possible treatments and other details to consider as 2013 trials are completed and 2014-15 trials are planned.

The CPDC was updated on other priority projects and there was considerable discussion about the balance of CPD projects to get solutions to the field, in balance with the ongoing process to review and move forward the best candidates from the new cycle of CRDF research project proposals. CPDC members reiterated that short-term solutions to

offset fruit loss or to prevent further tree health decline are foremost in growers' minds, and CRDF should be prepared to invest as much as necessary to move these solutions along without delay.

The CRDF Board of Directors meeting addressed recommendations on CPDC projects described above, enabling the final planning to occur to meet implementation timelines. In addition, CRDF received a status report on the Citrus Advanced Technology Program (CATP) research proposals that are under review, and encouraged staff to consider highest priority as these projects are reviewed and addressed by the Science Advisory Board (peer review), the Research Management Committee (grower evaluation) and finally are presented to the Board for approval.

The Board also engaged in discussion related to the October field visit by CRDF members to citrus groves in Sao Paulo, Brazil. Robert (Bobby) Barben, Chair of the Research Management Committee, Ben McLean III, Chair of the CPDC, and Harold Browning, COO, visited groves, a nursery and research institutions in Brazil to observe and discuss efforts in that industry to respond to HLB. Fundecitrus, the grower organization to support citrus research in Sao Paulo State, hosted the group and provided a well-rounded itinerary that included large and small growers, as well as several areas of the state. Discussion during the Board meeting focused on what is being done in Brazil that is different from Florida approaches, and what seems to be successful for them. Other topics included crop alternatives if Brazilian growers remove groves, border areas around groves and how they help in managing influx of HLB from neighboring groves, and a brief overview of other citrus diseases of importance.

A written report of this trip is being drafted and will be made available to the industry following discussion at the January Board meeting.

Finally, Dr. Turpen gave an overview of the NIFA nuPsyllid project that is overseen by CRDF. This 5 year, \$9 million project, is focused on development, release and evaluation of a substitute psyllid population that is incapable of transmitting CLas bacteria. The project involves 45 scientists at 15 institutions and has just completed its first year. Dr. Turpen provided an overview of the characteristics of the nupsyllid population that would make it likely to reduce HLB spread, and how the research teams are creating the nupsyllid system. The full technical report on the first year is available on the CRDF website, citrusrdf.org.