



CITRUS RESEARCH & DEVELOPMENT FOUNDATION GROWER RESEARCH REPORT

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Commercial Product Delivery Committee Activities

The Commercial Product Delivery Committee is focused on an array of near-term topics, including suppression of the psyllid, interventions to reduce bacterial titer in infected plants and cultural practices that may provide enhanced ability of citrus trees to withstand infection. Recent meetings have committed additional support for field trials of plant growth regulators to determine the ability of these chemicals to affect pre-harvest HLB-related fruit drop. The first season of field experiments to evaluate commercial microbe products is ending, and the 3 sites where this research is being conducted will be continued in 2015. This side-by-side comparison of several season-long programs was encouraged by citrus growers who aren't certain of the impacts of these treatments on tree health. The study included complementary nutritional and compost treatments as prescribed by those marketing the products. Among the most active topics is the effort to identify, screen and place into field trials a wide range of chemicals that are targeting the reduction or elimination of *Liberibacter asiaticus* from infected trees. Activities supported by CRDF range from discovery of new potential chemicals, comparing assay results to move candidate chemicals forward, and finally, to conduct appropriate field trials. The proof of utility comes when materials are applied under field conditions, and this is where the appropriate rates, application methods, timing of use, and expectations of efficacy are derived. Field trials also lead to development of residue information and other data essential to separate the best performers and to seek regulatory approval. Considerable activity is ongoing in these areas, with reports

Upcoming Board and Committee Meetings

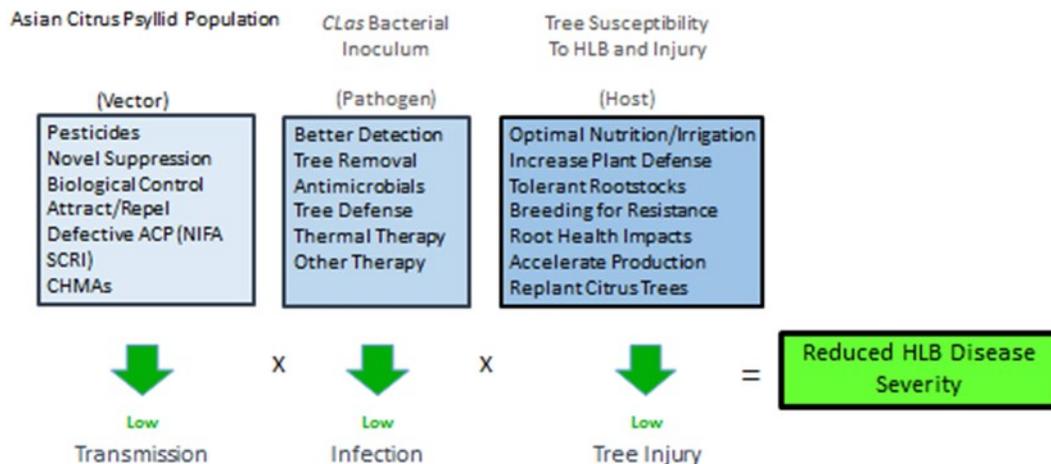
Jan 13th - Tele Governance Comm	Lake Alfred 10:00 am
Jan 27th - Board of Directors	Lake Alfred 9:30 am

of progress provided each time the committee meets.

As indicated above, data from a number of ongoing trials will be evaluated over the next several months, as fruit harvest and quality assessment are ongoing from the same field trials.

The CRDF Commercial Product Delivery Committee continues to seek projects that will put tools into the hands of growers who are battling HLB in existing plantings, as well as trying to prevent buildup of the disease in new plantings. We are working across the range of opportunities depicted in the graphic below in the belief that integrated use of all available tools will contribute to success in managing citrus in the presence of HLB. The graphic below summarizes some of the tools being sought to address: Asian citrus psyllid populations and their transmission of CLAs (left side of graph); Reduction or therapy against the bacterium (middle portion); and opportunities to target the citrus tree through cultural and genetic approaches to make the tree less susceptible to infection, or to increase the ability of the tree to defend against disease once infected. This graphic also communicates the value of adopting all of the available tools, with progress in each of the areas (vector, pathogen and host tree) contributing to overall reduction in severity of the disease.

Ultimate HLB Management



CATP Research Portfolio

The Research portfolio of CRDF is transitioning as projects mature and results are implemented in the field. The current portfolio of 107 projects highlighted below are spread across the breadth of topical priorities that have been established for attacking HLB, as well as 11 projects focused on non-HLB topics such as citrus canker, citrus black spot, and other pests and diseases that are important. As projects complete their 1-3 life cycle, CRDF is analyzing the progress being made and determining the need to continue the various lines of research. With availability of Federal funds through the USDA, APHIS Multi-Agency Coordinating (MAC) Group and the USDA, NIFA Specialty Crop Research Initiative Citrus Disease Research and Extension Program, CRDF is attempting to focus more attention on the immediate delivery to field of technologies and tools that will help the industry in the short term.

Over the next several months CRDF will be evaluating the expiring projects and developing plans to address the next steps. This will involve working with the researchers involved as well as securing the appropriate resources to ensure that gaps in progress on important topics do not occur. Many activities, such as knowledge mapping of research topics to determine the most important next steps, and coordination with the federal programs, will accompany the analysis of current CRDF-funded projects that are coming to an end.

CRDF is in a unique position to provide the catalyst for moving solutions to the field, and to integrate the actions of state and federal programs that are playing a greater role in funding the necessary long-term to short-term research on HLB. As our partner citrus-producing states increase their efforts in addressing Asian citrus psyllid and HLB, close coordination will be important to encourage the best programs moving forward and to aid in communication between researchers and the industries.

CRDF Research Category	Projects Ending < 7/01/15	Projects Continuing > 7/01/15
	# Projects	# Projects
1. Consequences of HLB infection	0	1
2. CLas culture, genomics, molecular	7	4
3. Citrus response to infection	4	2
4. HLB pathogen/disease detection	3	0
5. HLB epidemiology and mitigation	11	8
6. ACP monitoring and behavior	4	1
7. ACP chemical, biological mgmt	7	4
8. ACP trapping and repelling plants	0	0
9. Citrus genomics and transcriptomics	1	1
10. Conventional citrus resistance breeding	7	4
11. Transgenic/ vector mediated resistance	11	6
12. Model systems, inc. screening	2	3
Non HLB Pest and Disease Research	7	9
Total Research Projects	64	43

Committee meetings being scheduled for January include Finance and Audit, Governance, Research Management and Commercial Product Delivery. The Board meeting will occur on Tuesday, January 27th at 9:30 am EST. Notice and Agendas will be forthcoming. The CRDF offices will be closed from December 25th through January 2nd.