



CITRUS RESEARCH & DEVELOPMENT FOUNDATION GROWER RESEARCH REPORT

Volume 4 Issue 1

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This is the time of year when CRDF normally is well into the Citrus Advanced Technology Program (CATP) process and awaiting submission of pre-proposals for new and continuing research. This kicks off involvement of the Scientific Advisory Board, our Research Management Committee, and the Board in progressively reviewing and recommending projects for renewal or new award. This process increases in workload through fall and early winter, culminating in February when the Board meets to discuss and rank full proposals and approve them for funding.

The emergence of several significant and overlapping HLB funding programs has required that we reconsider our plans for this fiscal year. Of greatest impact are the following two HLB federal funding initiatives and State Legislative Funding Support to address Huanglongbing (HLB):

- USDA, National Institute of Food and Agriculture (NIFA), Specialty Crop Research Initiative (SCRI) Citrus Disease Research and Education Program. This program emerged from the 2014 Farm Bill and dedicates \$25 million per year for the next 5 years to support development of solutions to HLB to support U.S. citrus industries. The timeline for this program overlaps extensively with the CATP calendar, with full proposals being invited recently, reviewed through fall, and awards expected by year's end.
- USDA, APHIS funding to support delivery of HLB solutions which is overseen by a citrus HLB Multi-Agency Coordinating Group (MAC). This program was allocated \$21 million by Congress to enhance "shovel-ready" projects that are moving from discovery to field evaluation to implementation. This funding is directed to immediate implementation and should be expended in the next 2 years or so. Like the NIFA, SCRI, the process for requesting ideas is advancing, with review and awarding coming in the next few months.
- Again in 2014-15, the Florida Legislature has approved funding to support short-term research on HLB, committing \$3.5 million for the current fiscal year. This funding to CRDF will provide much-needed assistance to ongoing as well as new projects.

While each of these programs has stated goals, there is clearly the opportunity for overlap between them. Of greater consideration is that both programs overlap significantly with the priorities and goals of CRDF's competitive research program and our commercial product delivery program. For this reason, CRDF has put on hold the CATP14 process, pending outcomes of these two programs which will commit

Upcoming Board and Committee Meetings

Sept 18 - Commercial Prod Delivery	Lake Alfred 9:30am
Sept 18 - Finance & Audit	Lake Alfred 12:00 pm
Sept 22 - Research Management	Telephonic 10:00 am
Sept 23 - Board of Directors	Lake Alfred 9:30 am

up to \$46 million to support HLB research and delivery in this year.

Our strategy going forward is composed of these elements:










- Continue the stewardship of the 145 projects that are in the CRDF portfolio and which will continue for up to 3 years.
- Consider revisions/adjustments to approved projects to optimize progress, as we do on a case-by-case basis.
- Retain and increase CRDF efforts to move results to field trials and commercialization, monitoring ongoing research funded by CRDF and others.
- Coordinate with California and Texas as they increase investment in HLB research.
- Coordinate with the federal HLB funding programs to keep communication open and synergize the resources to best use.
- When funding decisions have been made in the federal programs, we will evaluate the need to fill gaps and extend ongoing progress through a modified CRDF research proposal program.

The last element, responding to the outcomes of other funding, will likely begin late in this calendar year and will potentially involve running a scaled-down, more focused CATP program early in 2015.

Thus, while our normal schedule has been disrupted (in a good way) by other funding programs, this will allow CRDF to continue moving forward and to focus on near-term delivery of solutions. With this re-direction in mind, CRDF has redoubled its efforts to make sure that solutions emerging from research are getting to field trials and being handed off to citrus growers for their use in combating HLB in the shortest time possible. This will be increasingly important as new research projects take hold with support from the federal funding programs. This Federal and State funding is a welcome complement to ongoing investments from the industry, and the hard work of moving from lab to field will remain a role for CRDF and its Commercial Product Delivery Committee. Having

Having the direct connection to growers and field trials is an important function of CRDF, and increased commitment of effort and resources will ensure that the quickest pathway from testing to utilization can be found. Among the main thrust areas are the development and evaluation of therapies for trees infected with HLB, and tools that can be applied to new plantings and resets to increase their likelihood of reaching productive age in the presence of disease.

During this period where many changes are occurring, it is vital that the industry's needs continue to be met through the combined vision and efforts of growers and allied industry members who provide the leadership to CRDF.

	Identification of small molecules that disrupt pathogenicity determinants of <i>Liberibacter asiaticus</i>	Gonzalez C
	Engineering Resistance Against Citrus Canker and Greening	Song
	Influence of plant nutrient regimes for extending the life of HLB-infected trees on Asian citrus psyllid biology and management	Stelinski
	Testing of existing botanical insecticides for activity against Asian citrus psyllid to identify potential new tools for psyllid management.	Stelinski
	Acoustic trap for Asian citrus psyllids	Mankin
	Automated application of semiochemicals for control of citrus leafminer and citrus canker disease with application for control of Asian citrus psyllid and HLB.	LaPointe
	Genome-enabled metabolic reconstruction of <i>Ca. Liberibacter asiaticus</i> and its use in culturing and controlling the pathogen.	Triplett
	Development of new technologies to eliminate huanglingbing from budwood source trees	Lee
	Enhanced nutritional application and productivity in endemic HLB grove situations in Florida - a statistical approach to determine efficacy	Young
	Novel formulations and application methods for bactericides to control systemic HLB infection	Graham
	A novel method for efficient inoculation of trees with the HLB bacterium	Folimonova
	Cultural practices to prolong productive life of HLB infected trees and evaluation of systemic acquired resistance inducers combined with psyllid control to manage greening	Rouse
	Characterize the causal agent of citrus blight through metagenomic approaches	Wang
	Examination of poncirus genes for tolerance of sweet orange to HLB	Dawson
	Determine the Time and Locations of Sources of Inoculum of Trees after Visit of Infected Psyllids	Dawson
	Cold Protection for St Helena Rootstock Trial	Burns