



# CITRUS RESEARCH & DEVELOPMENT FOUNDATION GROWER RESEARCH REPORT

Volume 5, Issue 9

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## Scientists Gather in Brazil to Share HLB Research Information

The best and brightest minds in the fight against HLB converged on Parana, Brazil in September to discuss their findings at the 2016 International Citrus Congress.

Some 1,070 delegates attended the 5-day meeting at Foz Do Iguaçu and the consensus is that collaborative meetings like the quadrennial Congress and the biennial International Research Conference on HLB are essential if the worldwide citrus industry is going to beat the disease.

“There was a lot of positive discussion on the state of the international effort to defeat HLB and giving growers the tools to manage the disease,” said Dr. Harold Browning, chief operating officer of the CRDF who attended the event. “Although every scientist realizes the challenge in front of us, to a man and woman they remained optimistic that the disease can be managed with a combination of aggressive horticultural practices, ACP control, tolerant or resistant plants, all working together.”

The book of abstracts from the meeting can be accessed by going to the ICC website <http://www.icc2016.com/abstract/book-of-abstracts>

The Citrus Congress, held every 4 years in citrus regions around the world, is a showcase for experts and rising stars alike, who attend to reestablish communication with their colleagues and to present their latest results. The program, a composite of keynote addresses, short oral presentations, and 350 posters depicting a wide range of topics, was bracketed with pre- and post-congress tours of citrus production areas in the region.

HLB was a major discussion point but a range of topics from genetics and plant improvement were discussed. And the international citrus industry knows HLB isn't the only threat to worldwide citrus production so leprosis, citrus variegated chlorosis and citrus black spot also took up portions of the agenda.

Florida was represented by ten University of Florida scientists and three citrus extension agents, five ARS scientists, 3 CRDF representatives, nurserymen, a packer representative and a few growers. California and Texas were likewise represented by scientists, growers, and allied industry mem-



*Dr. Bryce Falk of UC-Davis presents the keynote lecture on the potential that is offered by RNA interference to 750 delegates at the International Citrus Congress (ICC) held in Brazil last month.*

bers, all there to absorb information and new findings in the fight to keep citrus profitable across the globe.

Dr. Fred Gmitter, Professor of Horticulture at UF, IFAS, presented an outstanding keynote address on the global community effort to sequence the citrus genome, and walked the audience through the rapid changes that advances in technology meant to this effort, and now offer to utilize the results.

Florida scientists were strongly represented throughout the program, indicative of the wide range of research projects and topics that are being addressed in Florida with support from CRDF. Plant Improvement, seeking solutions to HLB but also addressing wider improvements to citrus through breeding, was a topic that had numerous sessions devoted to presentations. These ranged from our increased understanding of the genetics of citrus, and pairing this with the genetics of CLAs, working towards improving the plant's ability to withstand the never-ending challenge in the field by infected psyllids. Representatives of both of the Florida breeding programs (UF/IFAS and USDA, ARS) participated in delivering overviews of their programs. While Jude Grosser (IFAS) and Kim Boman (ARS) focused on emerging rootstocks and how they are being developed and evaluated, Fred Gmitter (IFAS) and Ed Stover (ARS) showed results from efforts on scion improvement.

The complexity of the uncultured CLAs bacteria was the focus of considerable interest on the program. Dr. (continued on page 2)



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Page 2

(continued from page 1)

Nian Wang of IFAS delivered several talks on the work he is doing to better understand the role that soil microbes and their products might play in reducing HLB, as well as his latest efforts to use emerging gene editing technologies to develop plants that are resistant to citrus canker and to HLB.

While the program also included sections on insect management, many of the Florida researchers were not in attendance, as the International Congress of Entomology was scheduled for the week following the ICC and was held in Orlando. Greater focus on ACP and other insect and mite projects related to citrus were presented at that meeting.

CRDF representatives used the forum as a chance to meet with Bayer CropSciences to further develop a plan for cooperative efforts. Partnerships to assist the Florida industry find and commercialize new tools is timely with increased research results emerging. The focus for discussion between CRDF and Bayer CropScience is screening and development of new active ingredient chemistries that can reduce CLAs populations in infected plants or can prevent infection.

And once again Florida and Brazil attendees were able to compare notes on what is working, and how while some approaches are similar, others are quite different. For example, the efforts in Brazil on developing HLB resistance through engineering is focused on the psyllid vector, while Florida efforts largely are focused on plants that that prevent or tolerate infection by the bacteria.

This meeting gave Florida and Brazilian scientists an opportunity to compare notes, visit Brazilian citrus sites where experiments are being conducted and to hear how the disease is progressing in each of the countries. An informative presentation by Dr. Jose Antonio Quaggio focused on citrus nutrition and the impact of HLB on the citrus plant. His research on how disease impacts the plant's ability to absorb and utilize nutrients summarized a broad area of research that is of interest in both Brazil and in the US.

"Although we recognize that growers are frustrated with the pace of research on HLB, the Congress is a strong example of collaboration among scientists to beat a shared

enemy," Browning said. "Only great things can result in getting the international citrus research community together to share ideas, information and data."

## Growers Urged to Utilize Research Foundation Website

Growers should please remember that the Citrus Research and Development Foundation's website [www.citrusrdf.org](http://www.citrusrdf.org) - is a useful tool to keep up to date on the latest citrus research.

The currently funded 2015-2016 projects can be found under the "projects" tab on the front page. Visitors can also find information on other HLB research funded projects, including USDA-NIFA, HLB MAC and California Research Board under that tab. To browse quarterly research progress progress reports, visitors can use the website's search function at [https://n412.fmphost.com/fmi/webd#\\_crdf-report-master-v14-150630b-fmp](https://n412.fmphost.com/fmi/webd#_crdf-report-master-v14-150630b-fmp). You can search by keyword or researcher. Keep in mind for the search tool to work you must press the "search" button once the keyword or researcher is entered and not just "return." It will not search if you hit return and not the search button.

In addition to project info, growers can also find a list of CRDF publications and presentations under those tabs respectively on the front page. For any questions about the website contact Brandy Brown at [brandy.brown@citrusrdf.org](mailto:brandy.brown@citrusrdf.org).

Other items of interest that may be found on the website include minutes of committee and board meeting as well as board and committee members. One of the best ways to stay up to date on CRDF efforts to deliver solutions to HLB is to attend board and committee meetings. Announcements for these public meetings can be found on the CRDF website.

### Upcoming Board & Committee Meetings

Most meetings are held in the Ben Hill Griffin Hall at the UF-IFAS, CREC campus in Lake Alfred, Florida.

11/01/16	CRDF Board of Directors Meeting	9:30 am
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