## Much to Research



By Rick Dantzler, CRDF chief operating officer

I tooked like the Citrus Research and Development Foundation (CRDF) might not have a request for proposals (RFP) this year, instead choosing to fund projects by invitation to specific researchers to implement a document we thought represented our best way of whipping HLB. However, we have now had two RFPs in short order and are considering a third.

The first was on "gamechangers," those ideas which, if successful, could get HLB behind us. It was inspired by the work of Robert Turgeon of Cornell University, considered by some to be the world's foremost expert on phloem physiology. He has developed a way to use antibodies to arrest *C*Las, preventing the bacteria from moving throughout the phloem. The board agreed to fund him for a year to test his theory on greenhouse trees and to make scions in the University of Florida's mature tissue transformation laboratory so that we could have mature scions to test if the greenhouse trials work.

The second is on inserting antimicrobials through systemic delivery devices (injections). Now that the door has been cracked on injections and the economics are playing out, we believe many other antimicrobials other than oxytetracycline (OTC) will work. We have known for some time that killing *C*Las is not hard; it's getting to it that is the trick. By delivering antimicrobials through systemic delivery devices, far less of the product is required than if applied by spraying, and only the target species is hit so it is better environmentally. By the time you read this, we will know how many pre-proposals we will have received. We expect many.

The third RFP the board is considering is to support companies that are developing — or might be enticed to develop — commercial products that would help growers. This has always been a responsibility of CRDF's, but few opportunities have come along. However, now that we have a product (OTC) and a method of getting it into the tree that works, what a shame it would be if large numbers of growers can't afford it because they are now out of money, having gone so long without an effective therapy. The board is determined to help companies help growers, either by publishing an RFP or simply by making our policies clear.

The board also just funded six OTC-injection projects which were considered not suitable for Citrus Research and Field Trial (CRAFT) projects because they would require more data collection from grower-cooperators than they might be willing to commit. The trials ranged from using CRDF rootstock trials, to measuring root density on treated trees, to using OTC in combination with plant growth regulators and the Vismax peptide if it is approved.

We also invited researchers who submitted three pre-proposals to submit full proposals for our consideration. One tests trees made canker-tolerant through CRISPR to see if they are also HLB-tolerant. The second tests OTC with several pesticides and a plant growth regulator. The third develops a faster way to do CRISPR editing.

A lot is happening. This industry is going to win.



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