

Tough Questions, Difficult Answers

By Rick Dantzler, CRDF chief operating officer



This column will appear just ahead of the 2024 Florida Citrus Industry Annual Conference. I'm writing it to pose questions for us to discuss.

The first question revolves around the most widely held and longest standing industry belief that the pathway to defeating HLB is with conventional plant breeding. Conventional breeding creates greater genetic diversity, especially by crossing with hybrids and citrus relatives, made more possible by the movement to redefine the orange as something other than *Citrus sinensis*. Genetic diversity is nature's way of dealing with maladies. With enough time, conventional breeding could likely solve the problem of HLB, as it has for diseases in other commodities. But time isn't on our side, and conventional breeding takes decades.

Nevertheless, there is no question that conventional breeding can — and in some cases has — created more tolerance, which is why it shouldn't be abandoned entirely. However, can conventional breeding create true resistance, where the tree is totally unaffected by HLB? Perhaps, but I believe a quicker way to achieving true resistance will be with gene editing, and that means a genetically modified organism (GMO) or, hopefully, a CRISPR tree transformed by a methodology that does not result in the tree being defined as a GMO. Will the marketplace accept a GMO or CRISPR tree? I believe it will, especially if the alternative is no orange juice or juice that is too expensive for the average consumer.

More questions: Will injecting OTC save the industry until a resistant tree solves the problem? Are we correct in pinning so much of our hope on this one therapy? I have heard growers say in public forums that it is, hands down, the most effective and promising therapy of anything they have tried. I realize it didn't bail us out in one year, but it was never going to. It is a two-to-three-year proposition at best. Regardless, here's what we've seen: Root mass is being restored. Trials show substantially better fruit quality and stabilization of yield when compared to untreated trees. There is reduced CLAs acquisition in the gut of psyllids, which hopefully will result in psyllids that are less "hot" or not hot at all. Positive results are being seen on all rootstocks and scions. Plus, growers are learning how to get more out of the OTC therapy every day.

Will growers have something to inject during the "off year" from OTC? I believe the answer will be yes. We have had discussions with regulators who are reviewing a list of molecules/compounds, some of which should have no regulatory implications whatsoever.

Finally, will regulators approve using OTC and streptomycin in combination, which kills 99% of the bacteria that causes HLB? It's too early to tell, but as an injectable (as opposed to a spray) it is placed into a closed system, so it does not hit non-target species. This virtually eliminates any environmental or worker concerns. Discussions with interested parties are starting, but where this will land, I do not know.

These and other important questions will be discussed at the conference. See you there.



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