



Collaboration breeds solutions

By Jack Payne, jackpayne@ufl.edu, @JackPayneIFAS

For science to serve citrus, scientists need to know citrus growers. People in the groves bring the problems of the groves to scientists' attention. Sometimes, a grower also brings a proposed solution.

That's what happened in late 2017 when Tommy Thayer and Scott Thompson called University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Extension citrus agent Mongi Zekri. The problem was HLB, of course. But Thayer and Thompson also brought Zekri an idea that UF/IFAS scientists could test.

It's called the individual protective cover (IPC). It's a mesh bag that keeps the psyllid off young citrus trees. Thayer and Thompson had been doing their own trials on the cover since 2014 and were seeing promising results. They asked Zekri if UF/IFAS could test the efficacy of the IPCs they sell under the name Tree Defender.

ROOTED IN RELATIONSHIPS

Thayer trusted Zekri because of their decades-long relationship. They've talked about citrus canker, insect pests, new citrus cultivars and rootstocks, nursery trees, fruit quality and more.

Thayer's father also worked with Bob Koo from UF/IFAS on irrigation technology in the early 70s and talked with citrus agent Chris Oswald's father, who was a UF/IFAS citrus agent as well. Thompson, too, has deep roots in the citrus industry and family ties to UF/IFAS.

Kelly Morgan, UF/IFAS Southwest Florida Research and Education Center (SWFREC) director, went to high school with two of Thompson's brothers. In the early 90s, Thompson and his father worked with UF emeritus professor Megh Singh on his aqua heat invention to control weeds with thermal treatment. Thompson also worked with Will Wardowski on grapefruit and citrus biproducts research in the late 90s.

This long-term shared history and connection builds trust. Thayer and Thompson regard UF/IFAS as a credible source of solutions. UF/



Individual protective covers keep psyllids off citrus trees.

IFAS scientists know that Thayer and Thompson's input is informed by generations of experience in the grove.

Zekri called Fernando Alferez, the citrus horticulturalist at SWFREC. Thayer and Thompson's idea intrigued Alferez. It was the first he'd heard of IPCs. Thayer offered more than an idea. He also offered Alferez 90 free trees and 90 free IPCs to get started.

If you were at the Florida Citrus Mutual convention or the Citrus Expo, you may have heard Alferez present his early results. You can also read about it in the next issue of Citrus Industry magazine.

EXPERTS SEEKING ANSWERS

It's not a simple matter of whether IPCs keep the psyllids out. They do. Alferez's trial in Immokalee is about a year and a half in, with the covered trees greening-free. Alferez has seen increased chlorophyll content and initial larger growth. There are lots more questions to be answered, though. Alferez wants to know what IPCs' long-term effect is on tree growth and performance.

There are many other questions, such as whether IPCs keep out beneficial organisms as well and how IPCs affect the physiology of some of the most popular new citrus varieties. Fortunately, when you tap into UF/IFAS science, you get a team of experts.

For this project, those experts include UF/IFAS plant physiologist Ute Albrecht, citrus pathologist Ozgur Batuman and entomologist Jawwad Qureshi. They are working with Alferez in Immokalee on some of these questions by studying Thayer and Thompson's trees and IPCs in SWFREC's experimental fields.

They well know that a successful lab experiment does not guarantee results in the field. Fortunately, Thayer and Thompson's idea is kickstarting research on a larger scale.

Based on early results at Immokalee, the Citrus Research and Development Foundation is funding Albrecht, Alferez, Batuman and Qureshi to expand their research with 700 more trees at SWFREC. Thayer is also helping arrange commercial sites to test still more trees.

Agricultural science works so well in Florida because agriculturalists are involved. That's part of the wisdom of the land-grant system. It works because growers and entrepreneurs like Thayer and Thompson embrace science and recognize UF/IFAS scientists as the best bets for solving their problems. Scientists, in turn, have an infinite number of problems to solve. They consider input from you essential to choosing which ones to work on. It's been that way in Florida citrus for generations. 🍊

Jack Payne is the University of Florida's senior vice president for agriculture and natural resources and head of the UF Institute of Food and Agricultural Sciences.