Citrus field day shows SWFREC research in action

BY FRANK GILES

The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Southwest Florida Research and Education Center in Immokalee hosted a citrus field day on April 10. The event showcased the research being conducted at the center.

Mike Burton, SWFREC director, said the field day was an example of getting back to the core roots of Extension and engagement with growers. He said the event drew about 40 growers and other industry stakeholders.

"I am grateful to Dr. Pam Roberts, who is based here at SWFREC. She really took the lead in making sure we get back to doing Extension the way we have done it traditionally," Burton said. "I think ever since COVID, we decreased the number of demonstrations and field days for citrus. The strong turnout suggests there's a demand for these types of events. There is a desire to not only see and hear about the research work we are doing here, but also to be able to get out in the field and be able to put your hands on that work."

Photos by Frank Giles

ABOVE: The citrus field day included a tour of research plots at the Southwest Florida Research and Education Center.

LEFT: Tara Wade reported that the vast majority of surveyed growers believe citrus trees are benefiting from OTC treatments.

TOUR TAKEAWAYS

One of the field tour stops featured individual protective cover (IPC) research led by Fernando Alferez, UF/IFAS associate professor of citrus horticulture. Thanks in part to his research, IPCs have become a standard practice among Florida citrus growers to protect trees from the Asian citrus psyllid (ACP) and HLB. More recently, Alferez has been studying the benefit of combining IPCs with applications of brassinosteroids (homobrassinolide) after the covers are removed from trees.

His research has shown that brassinosteroids improve tree growth and have some protective effects against pests and diseases. "We consistently find less canker lesions and rust mite incidence, to name a couple, in brassinosteroid-treated trees," said Alferez.

Repar Corporation (reparcorp.com) is the supplier of the homobrassinolide.

He also showed attendees the facility's citrus under protective screen (CUPS) structures. Growing in CUPS is becoming more popular because the structures exclude HLB-spreading ACP and provide other benefits to fruit production.

Ute Albrecht, UF/IFAS associate professor of plant physiology, gave an update on trunk-injection research. She showed trees that have been treated with oxytetracycline (OTC) and potential alternatives. Her research over the years consistently shows the benefits of applying OTC to improve tree health, yield and fruit quality.

When it comes to applying OTC to trunks, Yiannis Ampatzidis, UF/IFAS associate professor of precision agriculture engineering, demonstrated his trunk-injection robot that delivers materials autonomously to trees. The system applies OTC under pressure to speed the uptake of the material into the tree trunk.

Ozgur Batuman, UF/IFAS associate professor of citrus pathology, discussed research aimed at screening systemic acquired resistance foliar sprays that potentially reduce reliance on OTC and enhance its performance. This approach also could help reduce the potential of OTC developing resistance.

Sarah Strauss, UF/IFAS associate professor of soil microbiology, told attendees about her research looking at the benefits of cover crops and compost in citrus. She said these two practices

can change the soil microbiome in groves and potentially provide benefits to soil fertility as well as tree health.

Insect pests and weeds have been a battle growers have fought since the first citrus trees were cultivated. Jawwad Qureshi, UF/IFAS associate professor of entomology, provided an update on management of the ACP in the open field and how protected systems like IPCs and CUPS can add additional protection against the pest.

Another tour stop featured the work of Ramdas Kanissery, UF/IFAS associate professor of weed science. He demonstrated various chemical strategies to control weeds in the rows and under the tree canopy. Kanissery said a good strategy includes both pre-emergent and post-emergent herbicide applications.

TAKING THE LEARNING INDOORS

In the afternoon, the event moved from the field to the classroom for several presentations. Sanjay Shukla, UF/IFAS professor of water quality, gave an update on his ongoing research on water farming. This practice pays landowners for storing water on their property as a means of removing excess nutrients from watersheds. He will soon release another round of data detailing the significant amount of nitrogen and phosphorus that can be removed from waterways using this method.

Don't miss the digital edition of this issue to see the OTC injection robot in action.

Tara Wade, UF/IFAS assistant professor of economics, presented data from a survey she conducted on OTC costs and performance. Eighty growers took the survey, representing 27,862 acres. Seventy-nine percent of growers surveyed had applied OTC to their groves, and on average, 73% of their acreage was injected.

On average, growers spent $1.40 per tree to treat with OTC. The majority of growers (84%) used contract labor to conduct the injections.

Most growers (84%) reported some improvement in yield. Forty-eight percent of growers saw an increase of 10% to 20% in yield, and 71% reported a 20% reduction in fruit drop.

Growers also reported improvements in fruit quality, although results were not as strong as yield increases. Fifty-five percent saw pounds solids rise by 10% to 15%, while 74% of growers saw an increase in Brix ratio of 15%.

Wade is considering conducting another OTC survey this year on the profitability of trunk-injection therapies. She will report those results in 2026.