

# Citrus problem? Bob Adair wants to take a look

By CHARLES JOHNSON

**B**ob Adair stops the vehicle and hustles to a plot of Minneola tangelos. “Look at these trees,” he says. “They’re two years old. I’m six foot four. So, let’s see, these trees are about nine feet tall at age two. They’re well-fed, pruned and mulched. I’d put these up against any advanced productivity program.”

A small sign indicates the trees were planted October 8, 2009. Adair has great hopes for them.

“The Minneolas are so much more profitable, much more lucrative than a lot of other varieties, especially in an intensive management system,” he says.

These trees make up just a small part of Adair’s work as executive director of The Florida Research Center for Agricultural Sustainability on the western edge of Vero Beach.

His curiosity knows no bounds and the center’s 35 acres reflect that. Poke around here and you see plots on everything from citrus nutrition and greening disease to irrigation techniques, pest management strategies and windbreaks, and even as far-reaching as peaches and pomegranates.

“We’re a nonprofit organization,” Adair says. “That means we don’t have federal or state bureaucracy slowing us. We can respond to trends quicker. When a new problem pops up in the groves, we can get to work on it right away.”

“We work in conjunction with the University of Florida and USDA. They have expertise we don’t have, and we have the ability to do field research. We do projects for private industry, as well. We can do things growers won’t do — growers don’t like doing untreated controls but, of course, that’s no problem for us.”

Adair seems to look at the most challenging research problems just that way: He’s willing to test nearly anything if it holds the slightest promise of one day helping growers become more profitable.

**H**is background for all this seems a bit surprising. Unlike most agricultural researchers, Adair has no long list of agricultural degrees, although he did, at least, grow up in Florida. He attended the University of Miami, where he got a B.S. in chemistry and biology. After that, he worked eight years in what he calls “high tech, lab-intensive medical research” in Miami-area hospitals.

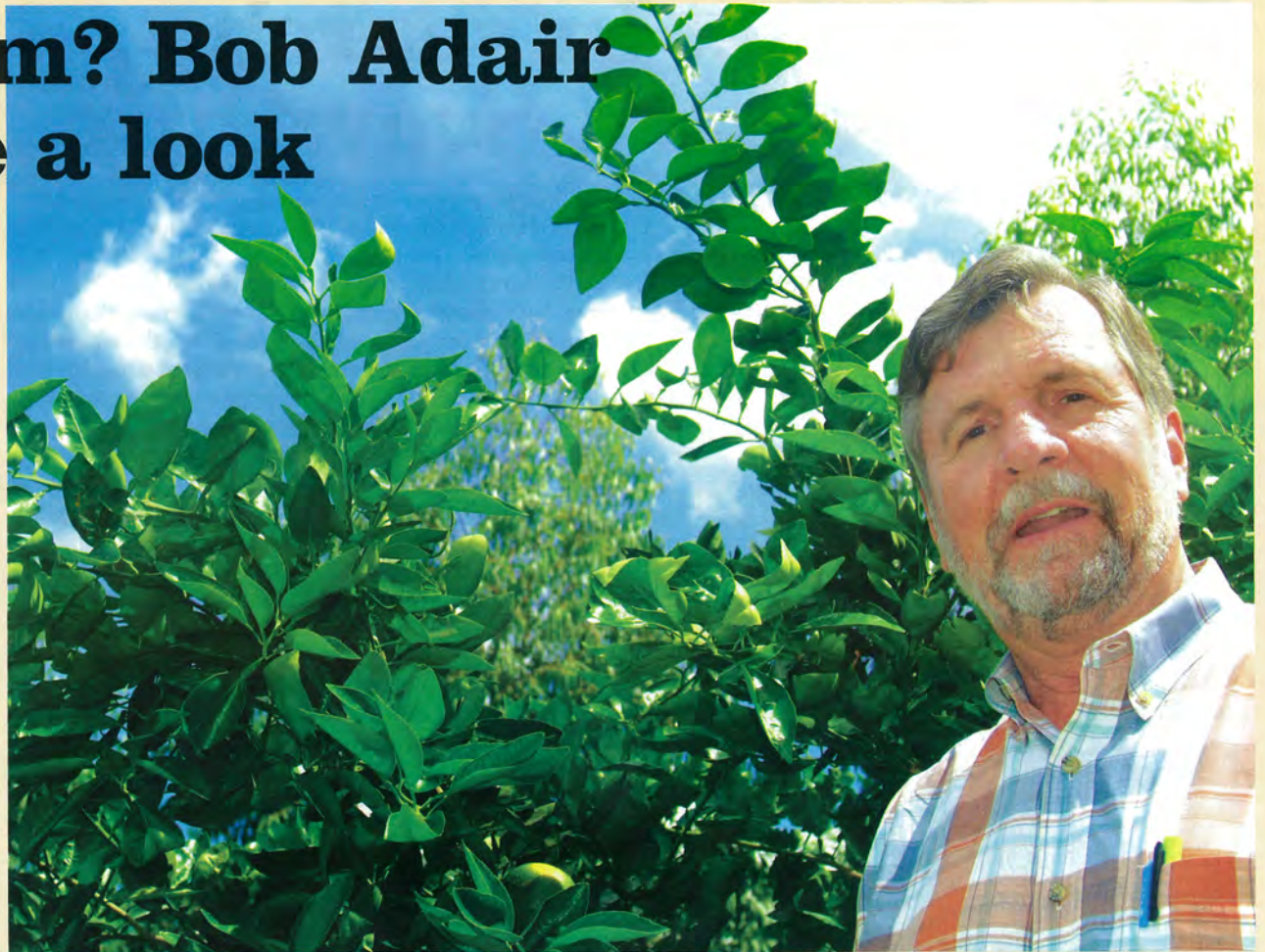
Then he moved to Oklahoma and took graduate level courses in fisheries management at Oklahoma State University. He owned a construction company specializing in passive solar energy, managed an Oklahoma purebred Angus ranch, also growing wheat and forages, and became interested in the new technological advances being made in agriculture.

Soon, he became a board member of the Kerr Center for Sustainable Agriculture, based in Oklahoma, and found himself with two urges: He wanted to again do scientific research, and he wanted to return home to Florida.

When the Kerr Center decided to open a sub-tropical research station, he jumped at the opportunity and moved to Vero Beach in 1986, for the next 18 years running the Kerr Center’s research operation there. The center’s research began as a bit of an oddity in an area known for high-quality Indian River citrus fruit.

Kerr wanted to research the neem tree, a native of India in the mahogany family. Neem oil contains an insect growth regulant, which Adair tested on citrus trees at the station, in addition to growing neem trees. That eventually led to much more citrus work.

When Kerr decided to close its Vero Beach station in 2004, Adair started The Florida Research Center for Agricultural Sustainability and managed to keep on doing what had occupied him for the past two decades. Since then, he and four employees have kept busy working on the big agro-



**BOB ADAIR, (top photo) conducts a broad spectrum of work on citrus industry agronomic problems. Vigorous growth in two-year-old trees (center) results from intensive management practices. The center also works with crops other than citrus, like these peach trees (right) recently released by the University of Florida.**



nomics issues of the state’s citrus business.

One of the first big projects involved diapaupes root weevil. The larvae weaken root systems, limit nutrient uptake, and trees eventually die. Working with state and federal researchers, Adair concentrated on foliar fertilization to keep trees alive and functioning even with damaged roots. That concept is how some growers try to manage citrus greening disease today. His group also did early research on a bio-rational fungicide, Lexx-a-phos, which contains phosphorus.

**A**dair put all his sustainable citrus management ideas to work at the Kennedy Space Center, where he handled 1,100 acres of groves at the Merritt Island National Wildlife Refuge operated by the U.S. Fish and Wildlife Service.

“We were able to take all our ideas, put them together and export them there, where there was a lot of concern about the effects citrus production has on the environment and wildlife,” he says.

He learned that certain nutrients levels must be maintained if groves are productive. “Potassium is important. Most groves are high in nitrogen and low in potassium,” he says. “The other nutrient we believe is underutilized is calcium. We use calcium nitration — it’s more expensive, but there’s no volatilization. It’s gentler and kinder to sensitive feeder roots, plus you get the benefits of the calcium.”

On citrus greening, the big agronomic issue growers now face, Adair thinks the current push to foliar fertilization may work as a short-term answer. Longer-term, researchers must develop real answers, he says.

“The foliar fertilization program buys time — it allows the tree to live longer and be more productive longer. If you have greening in your citrus, you’d better have a total care program, a root zone management program with nutrition both above and below ground, and a canopy management program that includes pest and pathogen control.

“Even before your grove has greening, better and more carefully applied management practices will improve productivity. You just can’t be sloppy with greening — applications have to be timed properly or you’ll fail.”

Even foliar sprays must go on at the proper times.

“If you put out nutrition after the leaf flush or fruit set, you’re in trouble. If weeds are sucking up nutrients, you’re in trouble. Timing is much more important now than ever,” Adair says.

**“Good managers who are well informed are going to be equipped to deal with greening. Knowledgeable management is paramount.”**

In January 2011, a National Public Radio reporter visited Adair to discuss the greening disease problem. One of his answers shows the different spin he puts on the exotic pest troubles of the past three decades.

“What we did was, we very effectively took citrus from another hemisphere, brought it into the United States, into Florida, and grew it as an exotic species. We took it away from its natural enemies. And what we’re seeing right now is all the natural enemies have found it here in Florida.”

Adair says he particularly enjoys it when growers drop by the center to discuss problems in their groves and look at his research. “I love to show people what we’re doing.”

Everything here, of course, does not involve citrus. On this day, he shows off some peach trees recently developed by the University of Florida.

“Look at those peach trees,” he says, bounding from his vehicle. “They’re only two years old. Can you believe that? Two years old and this big already. It’s incredible.”