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GREENING

Growers try to mount defense against tree-killing disease

Scientists and growers are looking for new ways to protect citrus from the latest natural threat -- greening.

By Phil Long

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FORT PIERCE --

Hurricanes wiped out a quarter of his 100 acres of groves in 2004, and the citrus canker eradication program felled 50 more acres, but Pete Spyke is mounting a cutting-edge comeback in a small experimental grove called "Rock Bottom."

Just off Okeechobee Road a few miles west of Florida's Turnpike, Spyke has planted 1,496 tangelo and grapefruit trees on nearly six acres. Some of the year-old trees now stand four to six feet tall.

Planted roughly twice as close as trees in conventional groves, they are nurtured by state-of-the-art irrigation and fertilizer systems that allow trees to grow into production faster.

Spyke, whose sister owns the well-known Spyke's Grove in Davie, hopes to get 300 boxes of grapefruit per acre when the trees are three years old. In a conventional grove, that would take twice as long, he said.

It's a race against greening, a tree-killing disease with no cure that is the latest natural threat to the state's citrus industry.

"The primary reason is so we can get the groves up and into production and pick as much fruit as we can before greening takes them out," Spyke said.

Like growers and researchers across the state, Spyke is taking part in an innovative movement to figure out how to grow citrus during the next decade and beyond.

Collaborating with Bill Castle of the University of Florida, Spyke is using a system called "open hydroponics," in which fertilizer and pest-control treatments are fed through a near-constant, daytime drip of water at the base of the young trees. The plants can more efficiently absorb the material and the method cuts water and fertilizer 30 percent.

As greening hits -- and experience tells him it's inevitable -- Spyke says he'll remove affected trees one by one. Even though he won't replace them, he figures that there will be enough healthy trees to pay off his \$57,000 investment over the next decade.

"But as far as I am concerned, I really never had any other choice," said Spyke, 56, who has been in citrus all his life. "This is what I do and this is what I am going to do."

In groves across the state, growers are trying to protect their trees from the most serious threat to the industry so far. Right now, there is no silver bullet to control the psyllids -- gnat-size insects that spread greening.

"I have never seen people in the industry as worried as they are now," said Gloria Moore, a 27-year-veteran professor of horticultural sciences at the University of Florida. She employs genetic engineering to develop cold-resistant and disease-resistant citrus trees.

A state-industry group is helping to coordinate more than 80 research projects, its \$7.5 million budget aimed mostly at greening and canker.

Research at the U.S. Department of Agriculture includes planting guava trees between citrus trees to see if the guava scent disrupts the mating and movement of the psyllid, which picks up the bacteria from one infected plant and carries them to another.

In Fort Pierce, Pasco Avery, the state's newly hired psyllid management specialist, is studying ways to use a fungus that thrives in extremely humid conditions and has proven lethal to the psyllid.

Thus far, natural concentrations of the fungus have not been found in Florida groves, but researchers are considering introducing the organism on an experimental basis.

It is part of a strategy to "allow for the least impact on the environment and the maximum control that we can get," Avery said.

Growers who make the best use of computers may have an advantage in the future.

Steven Rogers, a Lakeland-area grower-consultant with a background in science, walks the rows, checking his family's trees for bugs, disease and the need for water or fertilizer. Using an easy-to-follow program he developed, Rogers records the information in a hand-held computer. At the office, he combines data from previous surveys and can incorporate computerized information about the grove from other sources.

The result, he says, is more consistent, easier to analyze information that helps with decisions about grove care.