Save the guac!

Drones, dogs deployed in battle to save avocado crop from deadly fungus

By TAMARA LUSH
Associated Press

MIAMI — With the killers hiding in the trees, heat-sensing drones are launched into the air. When their whereabouts are narrowed, the dogs are sent in. When it comes to protecting the world's supply of guacamole, no weapon can be spared.

On subtropical farmland in South Florida, researchers are doing battle with the deadly fungus, laurel wilt, which is spread by a tiny beetle and has the potential to decimate Florida's avocado crop. The hashtag they have adopted for their mission: #savetheguac.

"This is probably the biggest threat to the Florida avocado that's ever been seen," said Jonathan H. Crane, a tropical fruit crop specialist at the University of Florida.

Laurel wilt is spread by the ambrosia beetle, an invasive species from Asia. It first appeared in the U.S. in Georgia in 2002, and has spread around the Southeast, mostly in redbay laurel trees. Avocados are in the same laurel tree family, and once infected by the fungus the tree can be dead within six weeks.

Researchers and farmers are fighting to halt the fungus before it advances to California, where the avocado is king.

Avocados are Florida's second-biggest fruit crop, behind citrus. The larger, smooth-skinned avocados in the Sunshine State differ from the smaller, rough-rined California Haas avocados. California produces nearly 90 percent of the nation's avocado crop and it's worth about $400 million annually — which is why it's essential to stop laurel wilt's spread.

Deep in Miami-Dade County's southern agricultural enclaves, researchers are testing methods to do just that. Florida avocados are harvested in early June.

On a recent day, scientists from Florida International University and the University of Florida, along with the owners of a drone company and a canine detection team, converged on a ranch under a blistering sun.

Part of the challenge of fighting laurel wilt is that by the time a farmer sees evidence of the disease — thin, hair-like prongs sticking out from tree trunks and limbs that are really the sawdust residue left behind by the burrowing beetle — it's too late to save the tree. But if farmers can catch the disease in its infancy, before symptoms emerge, there's hope of saving the tree with fungicide.

The first step is finding which part of the grove is infected. That's where the drone comes in. According to Ty Rozier, owner of Elevated Horizons, a Miami-based drone company, the vehicle carries a thermal digital imaging camera as it soars over the groves in lawn-mower patterns.

Researchers analyze the images and videos to find the stressed trees. Then, they send in the dogs.

"It's almost like cancer detection," said Ken Furton, an FIU provost and professor of chemistry. "Multiple dogs have alerted on (infected) trees that show no signs of infection."

The dogs currently used are two Belgian Malinois and two shelter dogs.

Once the dogs key in on an infected tree, farmers can remove and burn it, then inject nearby trees with fungicide in hopes of saving them or staving off the disease.

AP photo by Tamara Lush

In this photo taken April 6 in Miami, Ty Rozier flies a drone over an avocado grove. Researchers from Florida International University and the University of Florida are using grant money to find disease-ridden avocado trees with drones and fungus-sniffing dogs. A deadly fungus spread by a beetle has the potential to decimate Florida's avocado crop.

It's too costly to try to eradicate the ambrosia beetle, said Crane. The beetle works quickly, sometimes moving 30 to 50 miles a day through redbay laurel trees. Those varieties are found in Texas and "from there it's not a stretch to California or Mexico," Crane said. It's impossible to stop in those wild trees, but farmers must try to contain the disease in the avocado crops.

He added: "You can see the potential ecologic and economic devastation."

Since first detected on the edge of Miami's western suburbs in 2011, laurel wilt has killed swamp bay trees scattered across 330,000 acres of the Everglades. Hundreds of millions of redbay trees have succumbed across six Southeastern states since 2002.

And some avocado trees in Florida have been felled as well. About a mile from where researchers were testing the drones and dogs, acres of sick avocado trees were spindly, brown and dead. One researcher said it was likely the farmer couldn't afford to rip up and burn the trees, or treat the healthier ones.

This two-pronged detection system of drones and dogs could be adapted to other crop diseases, such as citrus greening, Furton said.

A $148,000 state grant is funding the study involving the drones and dogs.

"Florida's warm climate makes our state a hotbed for invasive species and diseases," said Adam Putnam, Florida's agriculture commissioner. "Florida's avocado industry has a $64 million economic impact in our state, and we will continue to aggressively protect our agriculture industry with cutting-edge research and technology."

Farmers surprised to see wolf in Malheur wheat field

By SEAN ELLIS
EO Media Group

ADRIAN — A castoff wolf from a Northeast Oregon pack has taken up temporary residence in Malheur County in Eastern Oregon and has been seen by several farmers and irrigation ditch workers.

Two of those farmers told the *Capital Press* they were stunned to see a full-grown wolf laying in a wheat field west of Adrian on April 21.

Oregon Department of Fish and Wildlife officials confirmed that they weren't imagining things.

"Everybody is correct in what they saw," said Philip Milburn, a district wildlife biologist in ODFW's Ontario office.

The male wolf, which has a tracking collar, entered Malheur County around April 10 and has been hanging out west of Adrian in sagebrush country for more than a week, he said.

"On (April 21), for some reason he decided to come down and visit ... farm country," Milburn said.

On that day, two farmers in a pickup truck saw the wolf laying in a wheat field, apparently napping.

Courtesy of Oregon Department of Fish and Wildlife

OR 22, a male wolf that separated from the Umatilla River Pack in February, is pictured walking through a Northeast Oregon forest on Jan. 26. The lone wolf has recently been spotted by several farmers near Adrian in Malheur County.

"We were just sitting there in shock," said Casey Kuenzli, one of those producers. "He stood up and cut in front of us across the road about 20 feet away."

Kuenzli, who is also a professional guide, said he was certain the animal was a wolf even before ODFW confirmed the animal's presence in the area to the *Capital Press*.

"There's no mistaking what it was," he said, adding that the wolf was black on top and "brown going down the sides."

Marvin Seuell, another farmer who was in the truck with Kuenzli, said the wolf appeared to weigh about 150 pounds.

"He came within 20 or 30 feet of us," he said. "I was shocked."

During the wolf's visit to farm country on April 21, it also swam across a canal in front of some ditch workers, Milburn said.

He said the wolf, known as OR 22, separated from the Umatilla River Pack in Northeast Oregon about Feb. 13 and has "been wandering around in a dispersing pattern" since then.

There have been a few reported wolf sightings in Malheur County in the past, as well as some confirmed wolf tracks, and a collared wolf crossed briefly from Baker County into Malheur County last May, Milburn said.

But OR 22 is believed to be the first wolf that has spent more than a short amount of time in the county, he said.

"We're just letting him be; he hasn't done anything to indicate he's going to be a problem," Milburn said. "We keep expecting he's not going to stay here ... but he's been proving us wrong."