Please note: A shorter version of this article appeared in the Palm Beach Post, entitled "Saving Florida's Sabal Palm Icon that Defines Our Skyline." Mr. Payne from IFAS provided us with a copy of the full article for posting to our website. When a lethal disease is carried by an insect, there are the options of going after both the disease and the insect.

Dr. Bahder helps in Saving Florida's Sabal Palms

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The sabal palm is everywhere, but if you blink you might miss it, since you're often passing it at 70 miles per hour. It's the tower that puts you in the tropics on your freeway drive.

Our state tree needs help. Too many are dying. That's costing you both in aesthetics and in tax dollars spent on buying, planting, removing, and replacing our roadside palms.

Fortunately, there are good detectives on the case, trained professionals who rely on public support. If a dead palm tree were a crime scene, we'd have the body, the weapon, and the time of death. We're pursuing leads on the murder suspect.

Dr. Brian Bahder of the University of Florida's Institute of Food and Agricultural Sciences in Fort Lauderdale believes he will someday be able to pick the murderer out of a lineup of bugs. As

an ornamental insect vector ecologist, he's a forensics guy who tries to figure out what kind of bug kills a plant and how it happens.

In this case, the whodunit focuses on the sabal palm. An insect is carrying from tree to tree the bacteria that causes a fatal disease called lethal bronzing.

Bahder is working on two tracks. He's fine-tuning a high-tech method for early detection of the disease so tree nursery owners can treat it before it's too late to save a tree. He's also looking at the saliva of the suspect bugs to see if he can determine which one carries the deadly bacteria.

It's only because of public support that Bahder is employed in the service of Florida's residents, tourists, state agencies, and nursery and landscape professionals. Because of state support for agricultural science, UF/IFAS was fortunate to hire Bahder.

He wasn't a palm guy when we hired him three years ago. He was working on wine grapes in California.

When we interviewed him, though, he pitched to us his proficiency in an investigative technique called digital PCR. It tests for DNA and is most commonly used in human and veterinary medicine. Bahder uses it in plant medicine.

Digital PCR allows for a rapid and accurate search for a certain type of DNA in a big batch of plant material. It's a technology-aided search for the needle in the haystack. In this case, the

DNA of deadly bacteria is the needle and a bunch of pulp from sabal palm trunks is the haystack.

Bahder has a stand of sabal palms outside his office at the UF/IFAS Fort Lauderdale Research and Education Center. They're all infected with lethal bronzing, of course. He gets federal funding, as well as the support of the Florida Nursery, Growers and Landscape Association and the International Society of Arboriculture to figure out why. And because he has the trust of the green industry, nurseries are sending him samples from their trees for his experiments.

That's how the state's premier land-grant university works. University scientists rely on government funding to work on a problem in cooperation with an industry that provides jobs, tax revenue and other benefits, such as postcard-like scenery, to a state.

The results show up in your food, your clothes, your roads, and your yard. You can eat locally grown food because public scientists help farmers overcome bad weather, pests, plant disease, and volatile markets to put it on your plate. Public scientists solve problems for Florida cotton farmers. Others are investigating whether Florida farmers can grow a mustard plant that can be converted into jet fuel.

Agricultural science helps with something more. A population soaring toward 22 million has made lawns and houses a couple of the state's fastest-growing crops. Pressure for citrus growers or tree nursery operators to sell their land to developers is

increasing. When they sell, we lose more of what makes Florida special.

Agricultural scientists are determined that you won't have to rely on other nations to eat. They stay up late researching the threat to your morning glass of Florida orange juice.

Once it becomes so much more profitable to build than to farm, there's no going back. I don't know of a single mall that's been converted into a strawberry field or a pine plantation.

The sabal palm represents another part of our past worth preserving. If agricultural science doesn't keep up with the disease that's killing it, we'll notice a slow die-off of iconic scenery. Until, one day, it's gone in a blink.

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

Mr. Jack Payne

Dr. Brian Bahder