

Curb appeal & garden

You can have it 'made in the shade' by planting more diverse trees



Photo courtesy of Gitta Hasing, UF/IFAS

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When we plant the same trees over and over again, we create urban forests that are vulnerable to being wiped out by invading pests and diseases, a University of Florida researcher says.

Deb Hilbert wants to avoid tree deaths. In fact, she and her colleagues at the UF Institute of Food and Agricultural Sciences are trying to plant more diverse tree species - to keep the trees alive and preserve urban canopies.

Why? Although some of us probably take trees for granted, they provide shade, oxygen and they can even boost the human immune system.

need to plant various types of trees. Usually, oak, crape myrtle and palm trees line yards, streets and parking lots in Florida, but different kinds of trees could be coming.

In fact, new UF/IFAS research shows at least two new tree species survive well in Central Florida and the Tampa Bay area.

"You need to mix up the types of trees planted so pests or diseases cannot easily spread from one tree to the next," said Hilbert, who recently completed her doctoral dissertation in urban tree diversity to earn a Ph.D. in environmental horticulture from the UF/IFAS College of Agricultural and Life Sciences.

Many times throughout history, pests have brought devastating diseases that have wiped out urban trees.

For instance, in 2002, an invasive beetle species - the emerald ash borer - hitchhiked from Asia to destroy millions of ash trees in North America. Impacted cities have spent more than \$10 billion to manage the borer's devastation.

The \$10 billion does not include the intrinsic value of trees. If they die, trees leave behind empty streets, drastically changing landscapes that offer far less beauty, Hilbert said.

"We do not want this to happen in Florida," she said. "Unfortunately, in highly built-up parts of the state, we plant just a few types of trees."

To conduct her research, Hilbert studied less-common urban tree species in Hillsborough, Orange, Pinellas and Polk counties. To decide which species to monitor, she worked with urban foresters, arborists, UF/IFAS Extension agents and nursery growers.

Hilbert studied five tree species - 200 trees in all - and found that two tree species survive well in those urban areas: Water's viburnum and winged elm.

She also conducted focus groups of nursery growers, urban foresters and others to find the challenges and opportunities to expanding species in Florida.

Various pressures influence which trees each group of stakeholders selects for planting in the cities. For instance, growers said consumer demand tells them which trees to grow and sell. On the other hand, landscape designers and municipal foresters said regulations - such as city ordinances - limit the diversity of trees they can plant.

"A cool thing about the focus group meetings was that the different stakeholders were actually very understanding of each other's experiences and constraints and were willing to keep talking about solutions," Hilbert said. "Other cities in Florida and around the world can now use our process to choose the most appropriate, underutilized trees to meet their needs."

Hilbert's doctoral advisor, UF/IFAS environmental horticulture Associate Professor Andrew Koeser, says her research lays a solid foundation for future work to reduce our overreliance on "just a handful of tree types."

"Right now, Florida cities - and most cities around the world - are largely betting big on a handful of tree species," said Koeser, a faculty member at the Gulf Coast Research and Education Center. "This will end up costing us dearly when the next pest or disease strikes. With Florida's rapid rate of development, we have an opportunity like few other places to shape a new, diverse, and resilient urban forest."



Photo by Drew McLean, UF/IFAS

Deb Hilbert, Ph.D. conducting her research

With about 90 percent of Florida's residents living in urban areas, UF/IFAS researchers are determined to plant tree species that will survive longer in cities.

To do this, they say they

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