

UF researchers identifying, developing noninvasive ornamental plant varieties

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In this file photo from December 2009, Gary Knox, a University of Florida environmental horticulture professor, poses with nandina plants at the North Florida Research and Education Center in Quincy, part of UF's Institute of Food and Agricultural Sciences. The nandina are a variety called Firepower; UF researchers evaluated them and concluded the variety is a good choice for Florida landscaping because it's unlikely to spread to the state's natural areas. Knox is part of a large, long-term effort to identify and develop noninvasive varieties of popular ornamental plants.

Plants from around the world beautify America's yards, and to minimize the chance that exotic species will grow where they shouldn't, University of Florida researchers are identifying and developing varieties with a low risk of running wild.

Scientists with UF's Institute of Food and Agricultural Sciences are on



the cutting edge of a trend, said Gary Knox, a UF environmental horticulture professor. They are evaluating common ornamentals to find the varieties least likely to become invasive nuisances.

"We're one of the first states to really look into this," Knox said.

Florida is the nation's second-largest producer of ornamental bedding and garden plants, with grower sales of close to \$150 million, according to a 2007 U.S. Department of Agriculture report. Nationwide, growers had sales of about \$1.8 billion. California is the largest producer, with sales of about \$300 million.

Knox, from UF's North Florida Research and Education Center in Quincy, will give an overview of the UF program today at the American Society for Horticultural Science annual meeting in Palm Desert, Calif.

"The green industry and homeowners realize some of the plants that have been sold in the U.S. became a problem, and they wanted to avoid having that happening again," Knox said. "Florida has greater need for this work than most states — we have very diverse flora, so some <u>native</u> <u>plants</u> exist in very narrow niches and invasives can force them out."

Answers are coming, though the process of getting them can be long and tedious, he said.

One example: A current UF project on ligustrum, also known as privet, a woody shrub from east Asia that's used for hedges in the South and sometimes colonizes wild areas. Though researchers have spent 18 months evaluating wild and cultivated varieties for their vigor and reproductive potential, it will take another year to finish the study, said Sandra Wilson, an environmental horticulture associate professor at UF's Indian River REC in Fort Pierce.



The process is slow partly because it takes time to see how well any exotic plant survives here, Knox said, or whether it will pose problems in Florida.

Cultivated varieties, known as cultivars, are genetically different from their wild ancestors, he said, and can vary widely in their ability to survive and reproduce.

Identifying low-risk cultivars already available to consumers is one of the program's two main goals, Knox said.

Already, Knox and Wilson have identified and tested a low-risk variety of the broadleaf, evergreen shrub Nandina, called Firepower. The plant does not produce flowers or fruit, meaning it's unlikely to reproduce in the wild.

The UF scientists' other goal is to develop new, low-risk cultivars, Knox said.

Plant breeder Rosanna Freyre, is developing low-risk purple Mexican petunias, also called Ruellia, at the main UF campus in Gainesville. She hopes to produce seedless forms in pink, a more sought-after color.

And Zhanao Deng, an <u>environmental horticulture</u> associate professor at UF's Gulf Coast REC in Balm, is developing low-risk lantana. They will eventually be released through Florida Foundation Seed Producers Inc., a not-for-profit corporation that licenses crop cultivars developed at UF.

Greater environmental awareness has helped spur demand for low-risk cultivars, but consumers still want attractive plants, Wilson said.

"If it doesn't look good or perform well, what's the point?" she said.



So the UF breeding program strives to balance beauty and low-risk traits.

Land-grant institutions in several major agriculture states have begun similar programs, notably North Carolina State University, Knox said. The U.S. Department of Agriculture has shown interest as well. The trend will benefit consumers and private enterprise, Knox said.

"This area of research has a lot of potential because cultivars have usually been tweaked to please human perceptions," Knox said. "That's not necessarily going to match nature's perceptions."

Provided by University of Florida

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