

IFAS Launches Long-Term Fertilizer Study

EDITOR'S NOTE: With the recent radical proposals to ban the use of certain fertilizers by several Florida counties, we have been fortunate to have Drs. Laurie Trenholm and Terril Nell from the UF/IFAS Department of Environmental Horticulture attend most of those county commission meetings to provide science-based information to these government bodies so they can evaluate the facts and follow responsible courses of action. To back up voluntary green industry BMPs and provide detailed scientific research for the eternally contentious issue of nutrient runoff and leaching, the following news release from the University of Florida/IFAS outlines the university's latest effort to bring common sense and science to the discussion table.

Florida's 5 million acres of home and commercial lawns may need fertilizer but its water resources don't, so University of Florida/IFAS researchers have embarked on a landmark study to verify the effectiveness of current state recommendations for lawn care.

Funded by the state Department of Environmental Protection, the five-year, \$3.5 million study is UF/IFAS' largest turfgrass research project ever, said Laurie Trenholm, an associate professor with UF's Institute of Food and Agricultural Sciences and one of the study's principal investigators. The research focuses on nitrogen and phosphorus, essential plant nutrients that pose significant threats to Florida's water quality.

"We've known for years how to produce beautiful turf, but now we're determining how to do it with the least amount of fertilizer," said Trenholm, who is also head of the Florida Urban Turfgrass Program. "When we're done, we'll have proven recommendations that are right for almost any landscape situation."

The study is based at three UF/IFAS research facilities – in Gainesville, Fort Lauderdale and near Pensacola – and addresses a variety of grass species, soil types and growing conditions, she said.

Current state recommendations are found in numerous publications, including the just-released third edition of "A Guide to Florida-Friendly Landscaping," a handbook for homeowners published by UF's Florida Yards and Neighborhoods program; a manual for lawn-care professionals, "Florida Green Industries Best Management Practices for Protection of Water Resources in Florida;" and the latest edition of "The Florida Lawn



Handbook," by Trenholm and J. Bryan Unruh. Recommendations are also available at <http://yourfloridalawn.ifas.ufl.edu> and www.solutionsforyourlife.com

The current recommendations have been used since about 2000 and were developed via collaboration among UF, Department of Environmental Protection and industry representatives, Trenholm said.

"The recommendations, which are known as best management practices, give individual homeowners and professionals a chance to prevent nutrient pollution," she said.

When fertilizer is properly applied to lawns, very little nitrogen and phosphorus is wasted, because turfgrass serves as a filter to absorb the nutrients, Trenholm said. But if fertilizer is applied at excessive rates or if heavy rainfall occurs shortly after fertilizing, the nutrients often leach through the

soil into ground water or run off into surface waters.

Excess nutrients in ground and surface waters represent Florida's biggest water-quality problem, said Eric Livingston, chief of DEP's Watershed Management Program. Nutrients reach Florida watersheds primarily from so-called "nonpoint sources," which carry water combined from multiple locations. One example of a nonpoint source is stormwater runoff in a city's drainage system.

"Nonpoint source pollution is hard to deal with because the nutrients may originate from so many places," Livingston said.

Fortunately, funding to combat nonpoint source pollution is also arriving from multiple sources, both state and federal. DEP now has about \$28 million per year available for research and implementation, he said. The UF/IFAS study is one of the first long-term research projects established by the agency.

"It's good to have funds available for research, because there are so many unknowns concerning nonpoint source pollution," Livingston said.

The UF/IFAS study began in April 2004 and the first data were collected about a year later, said Michael Thomas, an agricultural engineer with DEP's Nonpoint Source Management Section who manages the research contract between UF and DEP. Initial results from the study are expected later this year.

"We will communicate findings to the public as things move along," Thomas said. "Eventually, the findings will be incorporated into publications such as the Florida Yards and Neighborhoods manual, DEP best management practices manuals and model ordinances."

Florida's soils and climatic conditions vary enough from one part of the state to another that multiple recommendations are a necessity, said John Cisar, a professor with UF/IFAS' Fort Lauderdale Research and Education

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Center, who is leading the effort to verify fertilizer recommendations for South Florida.

“Generally, Florida has sand soils that are very prone to the movement of water,” Cisar said. “Here in the southern part of the state we have a year-round growing season and shallow sand soils.”

In the central part of the state there is some heavier sand soil and turf is

dormant or semidormant during the winter, said J. Bryan Unruh, an associate professor with UF’s West Florida Research and Education Center in Jay, a community northeast of Pensacola. Soils in the Panhandle contain sand and some clay, and colder winters keep grass dormant up to five months per year.

At the Fort Lauderdale center, researchers are evaluating the fertil-

izer needs of St. Augustinegrass and bahiagrass; in Gainesville, St. Augustinegrass and zoysiagrass are being evaluated; and at UF’s West Florida Research and Education Center facilities near Pensacola, centipedegrass and St. Augustinegrass are used.

Each location is hosting studies of both well-established turf and new turfgrass produced with sod or seed, important because the extent of the root system has implications for potential nutrient leaching, Unruh said. Established turfgrass has an extensive root system that can mine nutrients from the soil, whereas sod has a thin layer of roots and grass seedlings have few roots at all.

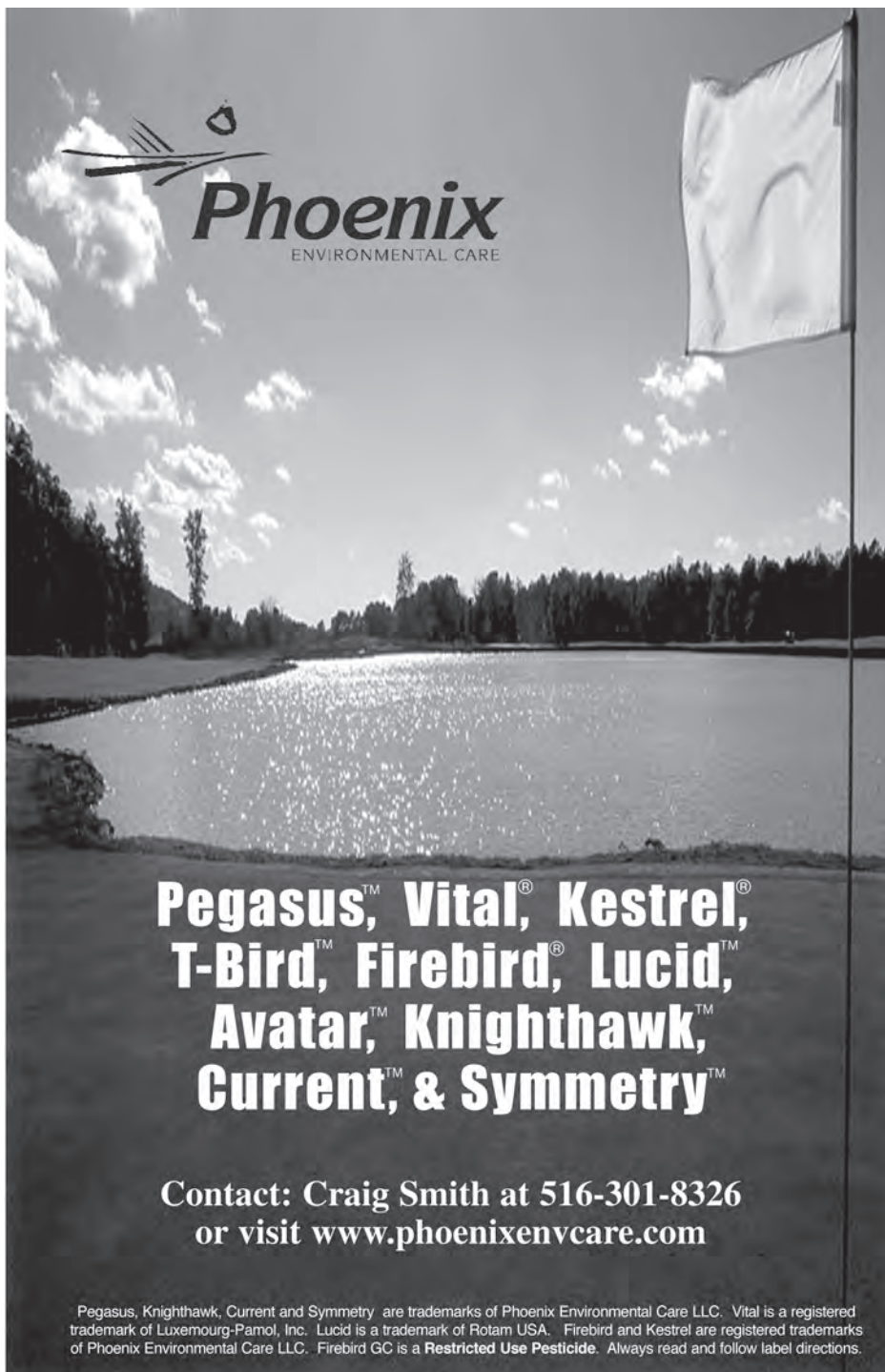
“One question we’ll be able to address is whether it’s wise to fertilize before planting grass seed,” Unruh said. “It’s a common practice, but some fertilizer may leach through the soil.”

Researchers will also determine the best timetable for fertilizing newly established turfgrass, an important issue for builders and homeowners in new developments, he said.

The UF study is a welcome development for commercial lawn-care providers, who want to follow best-management practices but also need assurance that the guidelines they’re asked to follow are based on the best available science, said Erica Santella, region technical manager of the commercial lawn-care providers TruGreen-ChemLawn and TruGreen-LandCare in Orlando.

“I’m excited that there will be some good, solid work to verify the BMPs,” Santella said. “As Florida grows, water quality is going to be a big issue, and it’s in everybody’s interest that professionals, as well as homeowners, take an active role in reducing nutrient runoff.”

“Florida Green Industries Best Management Practices for Protection of Water Resources in Florida” is available in English and Spanish online at www.dep.state.fl.us/water/nonpoint;pubs.htm.



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