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► **Lawn & Garden**

UF/IFAS scientist uses special fertilizer to keep palms, soil and water healthy

April 7, 2015

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Tim Broschat

GAINESVILLE, Fla. — A University of Florida scientist has developed a fertilizer for palm trees that should keep them healthy and reduce water pollution.

Environmental horticulture Professor Tim Broschat found that applying a palm fertilizer with no nitrogen or phosphorus could prevent the harmful effects of lawnfertilizers on palms.

“We also found that most palms do not need any phosphorus in their fertilizer to be healthy, and by not applying this element, we can eliminate one possible source of water pollution in Florida,” said Broschat, a faculty member at UF’s Fort Lauderdale Research and Education Center.

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Palms have special nutritional needs, including nitrogen and phosphorus, to stay healthy and look their best. But those same nutrients can harm the soil and the water below the soil. So, scientists such as Broschat are investigating ways to balance the nutrient needs of palms while preserving water quality.

Broschat conducted his experiment from 2010 to 2013 at the Fort Lauderdale REC, part of the Institute of Food and Agricultural Sciences.

During heavy rainfall or irrigation, Florida's soils have very little capacity to retain nitrogen and phosphorus in the area of the soil around the plant that touches the plant's roots.

By using the palm fertilizer with no nitrogen or phosphorus during the rainy summer months and a regular palm fertilizer with these nutrients during other seasons, palms grew as well as when they were fertilized year-round using nitrogen and phosphorus-containing fertilizers, Broschat's study found.

Fertilizer is usually not a pollutant when it's applied to the landscape. But if the wrong kind of fertilizer is applied at the wrong time, it can wash off of the landscape and flow untreated into bays and streams. Broschat's fertilizer finding is critical because a state law limits the amount of nitrogen and phosphorus that people can put on their lawns.

Furthermore, some Florida counties do not let people use nitrogen or phosphorus fertilizers from June through September because they think these fertilizers could get into waters via storm water runoff and possibly harm coastal water quality.

Although Broschat conducted his experiment on areca palms, popular in Florida, the results should apply to all kinds of palms used in home and commercial landscapes, he said.

Broschat's study is published in the March issue of the journal HortScience.

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