Soil and Water Science Department Inaugural Seminar

Speaker: Dr. Kelly Morgan  
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Soil and Water Science Department  
Southwest FL Research & Education Center

Title: Evaluation of Fertilizer and Irrigation Practices on Agricultural Production in South Florida

Date: Monday, February 8th
Time: 3:00 pm
Location: McCarty Hall A, Room G186

The collection of data from long-term, field-level citrus, vegetable and sugarcane is required to establish nutrient recommendations for Best Management Practices (BMPs). Validation of nutrient BMPs have been conducted by evaluation of: 1) soil nutrient movement with irrigation and rain water, 2) nutrient transformation rates, 3) crop nutrient availability and 4) effect of nutrient inputs on crop growth and yield. Since 2005, Citrus Greening (HLB) has devastated commercial plantings in Florida causing tree and productivity declines. Field and greenhouse lysimeter suggests that HLB affected trees use approximately 25% less water than healthy trees and daily irrigation results in improved water use efficiency based on allowable soil water depletion. Proportional nutrient accumulation patterns revealed that intensive fertigation increased N accumulation by 45% over grower practice. Field studies of sugarcane indicate no reduced yields with 30% less N, the use of controlled release fertilizers by growers have increased with approximately 50% of the sugarcane acreage on mineral soils on a fertilizer program containing controlled release materials. The results from field studies indicate water use of wider spaced emitters were lower, indicating water stress and reduced water use resulting in 14% lower fresh cane biomass. These research results and other projects demonstrate the value of field validation in implementation of BMPs with positive impact on the environment with little reduction in productivity.

For our off-campus students, off-campus faculty, and on-campus students who cannot attend, all seminars can be viewed at: http://mbreeze.ifas.ufl.edu/seminars. In addition, all seminars are archived for viewing at http://soils.ifas.ufl.edu/academics/seminars.shtml