



2009 CSREES National Water Conference; St. Louis, MO

Estimating irrigation BMP impacts using GIS and data collected in field studies

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Abstract:

Irrigation Best Management Practices (BMPs) were investigated in Biscayne Bay Watershed (Miami-Dade County), Florida, for field ornamental nurseries and fruit groves. The irrigation BMPs included tensiometer automated irrigation and historic evapotranspiration based irrigation which were compared to standard grower practices. Results indicated that these practices resulted in over 50% water savings, with the level of savings dependent on irrigation method and time of year (i.e., wet versus dry season). This information was extrapolated and evaluated using GIS to estimate potential water savings if these practices were implemented throughout the watershed. Also, information from other irrigation projects focusing on residential land covers was integrated to determine additional watershed water savings if soil moisture based irrigation methods were implemented in residential areas. Energy savings of implementing such BMPs were also evaluated to determine total savings on the watershed scale.

Impact Statement:

This is one piece of a much larger project that has provided much needed information on BMPs and their viability for growers. Outcomes of the project include better technical understanding BMPs and their assessment, recommendations for their implementation, and 'real numbers' on their money saving benefits.

Category: Agricultural BMPs

Type of Presentation: Poster Presentation