Phosphorus Load Reductions Under Best Management Practices for Cropping Systems in the Everglades Agricultural Area. (S11-daroub154853-Poster)

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Abstract:

Concerns regarding the quality of agricultural drainage water from the Everglades Agricultural Area (EAA) led to a regulatory program that requires phosphorus (P) loads in the water leaving the EAA basin to be reduced by 25% relative to historic trends. The objective of this research was to quantify the effects of BMPs implemented on selected farms on farm drainage P loads. Ten farms, which represented a range of EAA sugarcane based cropping systems with respect to drainage capacity, soil depth, and choice of BMP implementation, were chosen for monitoring of P loads. The BMPs included banding of P fertilizers, P fertilizers rates according to soil test, avoiding drainage activity until a pre-determined amount of rainfall, and establishing particulate matter control measures. Hydrologically adjusted farm-level load reductions, expressed as adjusted unit area loads, averaged 55% for the farm sites over 7 years compared to pre-BMP levels. Total P concentrations decreased by an average of 1.3%. Reductions at the EAA basin are similar to those measured at the farms and have exceeded every year since 1995 the mandated 25% reduction.

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