Towards understanding the impact of floating aquatic vegetation on farm phosphorus loads in the Everglades Agricultural Area, Florida.

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For decades water from Lake Okeechobee is released into the Everglades Agricultural Area (EAA) for irrigation; and discharges from the EAA have been identified as contributors to the phosphors (P) enrichment of the Everglades. Despite the success of the Best Management Practice (BMP) program in the EAA, higher P concentrations and loads still exit the S5A and S6 sub-basins located east of Lake Okeechobee. Limiting the growth of floating aquatic vegetation (FAV) in farm canals should improve the conveyance and quality of drainage waters throughout the region. We believe that suppressing the growth of FAV could potentially change the aquatic plant community. It is hypothesized that with better light penetration into canal waters more P may be co-precipitated with Ca-carbonates and form cohesive sediments that are less likely to be re-suspended and transported off the farm during drainage events. This is a long-term study which will evaluate changes in sediment composition and drainage water P in EAA farms. Four farm pairs (two from S5A and S6 sub-basin) have been selected for this study. Each farm is an experimental unit. Treatments imposed on a farm will include either complete control of FAV in canals via mechanical removal followed by spot spraying of herbicides, or typical control of FAV as currently practiced. Changes in P species composition in canal waters, and overall total P loads as influenced by treatment will be determined. The goal is to provide growers an additional tool in their efforts to reduce off-farm P loading in the Everglades Agricultural Area.

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