

# Sugar Farmers' Best Management Practices

Best Management Practices (BMPs) are special farming practices--primarily soil and farm water management techniques--that help achieve environmental goals. Farmers have spent millions of dollars each year (in addition to the \$200-\$300 million in agriculture privilege taxes required by the 1994 Everglades Forever Act) implementing these new techniques on the farm. Since BMPs were fully implemented, farmers in the Everglades Agricultural Area (EAA) have consistently reduced the nutrients in the water leaving their farms by an average of 50% -- well above the Act's required 25% phosphorus reduction.

A number of BMPs were developed by the sugar industry, in conjunction with scientists at the University of Florida, then measured and tested by EAA farmers and government agencies. The most effective BMPs include:

- **Modifying pumping practices to prevent soil sediment from being pumped with water as it moves off the farm.** Most of the phosphorus is a natural component of the highly organic muck soils of the EAA that enter the canal systems. Thus, the greatest reductions have come from increased water detention on the farms. Releasing smaller amounts of water over a longer period of time prevents soil sediment in the bottom of farm canals from traveling with water being sent to the Everglades.
- **Using high-tech lasers to level fields and thus reduce soil erosion and improve water control.** Laser leveling equipment can produce fields that are "table-top" level, thus allowing water to drain down naturally through the soils rather than running off into canals due to slants and slopes in the fields.
- **Promoting vegetation growth along canal banks to trap soil sediment.**
- **Increased canal and ditch cleaning program.** More frequent removal of nutrient-rich soil from the bottoms of canals—the soil is then spread back on the fields. This also helps reduce the incidence of soil subsidence.
- **Planting cover crops to minimize wind and water soil erosion.**
- **Minimizing fertilizer application by conducting intensive soil testing to determine exact nutrient needs of the soil and utilizing new banding technology that applies fertilizer directly onto plant roots.** Increased soil testing and plant tissue analysis pinpoints exact amounts of nutrients needed for producing a crop. Fertilizer is one of the farmer's most expensive inputs, and there are negative crop results from excess fertilizer use.

Individual farmers are free to choose from a variety of BMPs to create a system that works for their particular farming operations. Results: 35% phosphorus reduction this year and an average 50% reduction over the past eight years. Again, BMPs have surpassed the 25% reduction every year since implementation.

The water leaving the EAA farms travels with water from Lake Okeechobee and some suburban areas for further treatment in Stormwater Treatment Areas (STAs). These artificial filter marshes have been built on 40,000 acres of former farmland. The original goal of the STAs was to clean the water to 50 ppb phosphorus. With the farmers' dramatic reductions, the four filter marshes already in operation are regularly releasing water in the 15-35 ppb range. STA-2 has released water at 10 ppb at times. Like the farmers' success, this is another element of the state's clean-up plan that is succeeding beyond its designed goals. This bodes well for the more comprehensive ecosystem restoration efforts still to come.