

Vegetable Growers in the Suwannee Valley Optimize Fertilizer Use by Implementing Best Management Practices

D. FENNEMAN¹, E. TORO², R. HOCHMUTH³, M. BAUER³, AND C. VANN⁴

¹University of Florida, IFAS, Madison County Extension, Madison, FL

²University of Florida, IFAS, Suwannee County Extension, Live Oak, FL

³North Florida Research and Education Center, Live Oak, FL

⁴University of Florida, IFAS, Lafayette County Extension, Mayo, FL

Vegetable growers in the Suwannee Valley have adopted drip irrigation and plastic mulch over the past 25 years to produce vegetable crops such as tomato, bell pepper, eggplant, cucumber, muskmelon, and watermelon. Soils in the area are sandy with low water holding capacity and low organic matter content. Consequently, vegetable production in North Florida requires intense irrigation and fertilization management. University of Florida County Extension agents have been working with vegetable growers in North Florida to refine their management of the technology since it was introduced to the region about 25 years ago. The emphasis of the educational program has been to improve efficiency of water and nutrient management by conducting on-farm weekly sap testing. Plant nutrient status can be determined in the field by squeezing plant sap onto meters that measure either nitrogen or potassium (Fig. 1) (Fletcher et al., 1993; Hochmuth, 2003). This gives a grower an instant result to guide their fertilizer program week to week. In addition, updates on nutrient and irrigation management technologies are offered to growers at the Annual Suwannee Valley Watermelon Growers Meeting. The benefits of improved management have been multi-fold as reported by cooperating producers: reduction in fertilizer use, improved fruit quality, reduced environmental losses of nitrogen, fertilizer applications to match plant requirements, and improved economic returns to the farm. Suwannee Valley watermelon growers have adopted several BMPs including: irrigation sensors, petiole-sap



Fig. 1. Riley Putnal of Putnal Farms, Live Oak, FL, uses a petiole sap testing meter.

testing, and refining fertilization rates; resulting in adoption of UF/IFAS nutrient recommendations on nearly 100% of the area watermelon acreage. In summary, combining these educational programs in the Suwannee Valley area has made a great impact toward adopting BMPs voluntarily. Growers see and learn on their own farm and often serve as early adopters that help teach other growers. Most county agents in the Suwannee Valley are trained to use sap testing meters and provide this as a service to farmers in their counties.