

OPTIMIZING CITRUS IRRIGATION MANAGEMENT WITH SOIL AND PLANT-BASED SENSORS

Davie Kadyampakeni

University of Florida, Citrus Research and Education Center, Lake Alfred, FL, USA

Water management has been based on farmer perceptions of plant water needs or on indirect estimates of water use, such as evapotranspiration estimates based on weather data. The latter approach is still of interest but is well explored by other modeling approaches. Our work is focused on all aspects of using sensors, sensor systems and sensor networks to advance and enable more effective water management, particularly, but not exclusively, in irrigated agriculture. Sensor development and testing, conjunctive use of sensors to arrive at more complete knowledge of plant response and soil water status, the relationships between sensor signals and plant and soil properties related to water stress, and automation and control of irrigation systems using sensor networks are just some of the areas of interest. In this presentation, real-world and on-farm examples of soil and plant-based sensors for irrigation management will be discussed and shared with the scientific community. Merits and caveats for using some of these tools will also be shared.

PRESENTER BIO: Dr. Kadyampakeni is an Associate Professor for Water and Nutrient Management in the Soil, Water and Ecosystem Sciences Department. He is the 2019 UF Water Institute Early Career Fellow. His research interests include crop and soil modeling, water conservation, irrigation management, nutrient management, and hydrology.