



## Keep An Eye On Irrigation

**T**he National Weather Service predicts the drought in the Southeast will continue to persist or intensify this spring. La Niña conditions will continue for the next few months, and rainfall in Florida is predicted to be below normal through next month. While irrigation can be withheld from citrus in the fall and winter, adequate water in the spring is necessary to maintain good yields. With the prediction of a dry spring, growers may need to review their management practices to make sure they are providing sufficient irrigation to their trees and the new developing crop.

Florida's sandy soils are notorious for holding very little water. Hence, frequent irrigation, particularly in the hotter spring months of April and May, is necessary to maintain the soil near field capacity.

### Plugged In

One thing that has made it easier to manage irrigation is improved technology in the area of soil moisture probes. Tensiometers are still a low-cost method to get a snapshot estimate of soil moisture status. But many growers do not take the time to maintain them properly. Newer technology has recently become available that allows growers to follow changes in soil water status over time. Water content at different depths can be monitored, so the grower can see developing trends in changing water content. Sensors also can indicate how deep water has moved in the soil profile.

Technology is now available that allows growers to access data on soil moisture via radio and Internet or cell phone. Growers can monitor soil water status in distant fields from their home office or any other loca-

tion. Knowledge of irrigation status can enhance water utilization and save growers from making unnecessary trips to remote fields.


Growers also can set soil water status trigger points to start irrigation. These trigger points can be changed with the season. With less stress in the spring, better fruit set is assured. Greater soil water depletion in the fall and winter can save water and pumping costs while helping to concentrate juice solids.

We now have the capability of a fully automated irrigation system, where tree consumptive use determines the frequency and amount of irrigation applied. When the soil dries to a pre-set trigger point, the irrigation will automatically come on. Changes in irrigation frequency are based on tree uptake of water from the soil. Thus, irrigation frequency can automatically adjust to hot, cool, dry, or rainy conditions.

### In The Field

We installed an automatic system in a grove of mature Hamlin/Carrizo trees on ridge Candler sand. It was interesting to see when the trees "called" for irrigation (i.e., dried the soil to a pre-set depletion level that triggered an irrigation cycle). Using green microsprin-

glers (roughly 15 gallons/hour) and half hour irrigation pulses at a 25% moisture depletion level, we found that trees commonly triggered an irrigation pulse two to three times per day in the spring. With this system, trees usually started irrigation pulses around noon, late afternoon, and early evening. When it rained, irrigation was delayed. In the winter when evapotranspiration was lower, trees commonly triggered an irrigation just once a day at 25% depletion. If the depletion level were set at 50% in the winter, irrigation usually occurred every other day. The depletion level trigger point can be adjusted based on grower preference, tree size, and soil type.

These automatic systems cannot replace grower judgment, but they can monitor soil water status, reduce over-irrigation and potential nutrient leaching loss, and start irrigation based on plant water use. Besides monitoring water status, most soil water sensors are eligible for cost share reimbursement in the Southwest Florida Water Management District under the Facilitating Agricultural Resource Management Systems program. This program makes it more affordable for growers to use soil water sensors. 

## AZOMITE®

### Granular

### Complete & Natural Soil Mineralizer

- Proven on all types of crops
- Broad spectrum of minerals
- Eliminates "hidden hunger"
- Complete micronutrient source
- Boosts yields & quality
- Over 50% silicon
- Imparts disease & pest resistance



- 5.23% potassium & 3.67% calcium
- No heavy metal toxicity
- Improves drought & cold tolerance
- Broadcasts & spreads easily
- Slow continuous release
- Saves on fertilizer
- OMRI listed safe product

### Affordable Pricing

### Green Crop Nutrition

Dana: 386-837-3878 Paul: 386-801-5833 danavenrick@yahoo.com  
2526 W. S.R. 44, DeLand, FL 32720-2803

<http://www.greencroptonutrition.com>