

A GROWER'S STORY

Best Management Practices Water Conservation

Watermelon growers and extension agents work together to implement best management practices in order to use water more efficiently. Learn more about the grower's journey.

Over the past 25 years, watermelon growers in North Florida have changed their practices in order to utilize their resources more efficiently.

In recent years best management practices (BMPs) have contributed to this change. The University of Florida Institute of Food and Agricultural Sciences defines agricultural BMPs as practical measures that producers can take to reduce the amount of fertilizers, pesticides, animal waste and other pollutants entering the water resources.

“It was interesting that most of the improvement was made on the irrigation side and that made the fertilizer use more efficient. So they’ve been able to document tremendous savings of irrigation water,” said Suwannee Valley extension agent Bob Hochmuth, in reference to a study he helped conduct regarding BMPs and watermelon growers.

Extension agents like Hochmuth are reaching growers by conducting workshops and on-the-farm demonstrations. Hochmuth said going to the growers’ farm is the key to getting farmers’ interest and, ultimately, their participation.

“Extension is trying to take the research we are doing to farmers interested

in adopting the different technology,” Hochmuth said.

Laura and Jody Land are some of the growers Hochmuth was referring to. The Lands are Florida watermelon growers with farms in Lafayette, Suwannee and Gilchrist counties. They learned about BMPs from both local extension agents, like Hochmuth, as well as the Natural Resources Conservation Service (NRCS) funding programs.

Between their farms, they grow about 300 to 400 acres of watermelon a year. They farm both seeded and seedless watermelons. The family is also involved in other sectors of the agricultural industry, such as grass and cattle production.

Laura Land said they begin with dry fertilizer on the beds under the plastic covering and use drip irrigation in order to use water more efficiently. A drip system is placed in the soil surface, but under the plastic-covered rows delivering water only along the plant rows, where the plant’s roots are located, and not in the row middles. Because the water emitters are placed along the ground and under plastic, there is little to no evaporation loss.

Laura said their farm also implemented the use of soil moisture sensors in order to measure and conserve water.

“Today, soil moisture sensors are able to show where the water is going and how deep in the soil it travels in real time, 24 hours a day,” Hochmuth said.

Hochmuth said there has been a huge adoption of the soil moisture sensor technology across the Suwannee Valley

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**-Bob Hochmuth,
Suwannee Valley Extension Agent**



region. Several hundred soil moisture sensors are being used currently throughout the region on a wide range of farms, including the Land operation. Hochmuth said the technology has been adopted by farmers at a rapid pace.

“We are very pleased with it,” Laura said, in reference to the soil moisture sensor. “It is definitely an efficient tool that helps us.”

Laura said she believes other vegetable crop growers could benefit from this technology because of the way it has significantly increased water efficiency. One of the biggest benefits the Lands have found is the amount of information they have been able to collect from the probes.

“You can get a whole lot of data from the soil

“WE SPEND A LOT OF TIME GOING FROM FARM TO FARM CHECKING ON OUR CROPS, SO THIS TECHNOLOGY MAKES THINGS EASIER.”

-Laura Land, Watermelon Grower

moisture probes,” Laura said.

The data they collect from these sensors show the Lands exactly what time water begins pumping, as well as the exact moment when the pumping ceases. Laura said the use of this tool has lowered irrigation costs as well as fuel costs. Irrigation pumps use a lot of fuel, which can be very expensive, so knowing when to use them and when not to is vital to saving both water and money.

“For example, at night we found the plants are not taking in water,” Laura said. “We can see the optimum times for irrigation and when the plants are taking in the most water.”

Laura said they are able to see what water patterns are best for the plant. Because of the soil moisture probes, the Lands have been able to feed their plants exactly what they need, which means not over or under fertilizing the plant. This practice allows the farmers to provide

their crops with just the right amount of nutrients.

“We use less water to produce more crops and waste less water and fertilizer in the process,” Laura said.

Time is very valuable to the Lands, as they spend so much of it going from farm to farm to check on their crop. Laura said the soil moisture sensors have made it easier to use their valuable time more efficiently.

“Now with these soil moisture sensors and other technologies that are available, they can manage a lot of those systems remotely from their iPhone or from a computer,” Hochmuth said.

Hochmuth said the technology is going to continue to improve and provide water-saving opportunities especially on the equipment side, as well as with fertilizer applications.





ABOUT OUR RESEARCH

The UF/IFAS Center for Public Issues Education in Agriculture and Natural Resources partnered with the Florida Agriculture Best Management Practices program to document grower and extension agent experiences with BMPs. The PIE Center is also conducting research to understand the impacts of BMPs on local growers throughout the state of Florida.

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