Master Irrigator Program Leads to Increased Adoption Rate of New Technologies for Irrigation Management in Georgia

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UNIVERSITY OF GEORGIA EXTENSION
Ag Water Team

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Master Irrigator Program

OVERVIEW

The Master Irrigator concept began in Texas initiated by the North Plains Groundwater Conservation District back in 2016. The Georgia Master Irrigator Program began in 2023. As of October 2025, thirteen states have begun similar programs, and interest continues to build nationwide. Programs vary by state, and in Georgia each year participants receive training on advanced irrigation management methods through seminars and in-field trainings. They are required to purchase irrigation management equipment with remote monitoring capability to be used for one growing season which increases comfort with these advanced methods.

SITUATION

Irrigating without any irrigation scheduling method can have a significant impact on crop yield, irrigation efficiency, and profitability. US Census of Agriculture data from 2017 shows less than 25% of US farms utilize soil moisture sensors. In 2018, only 11 percent of Georgia producers reported that they were using soil moisture sensors.

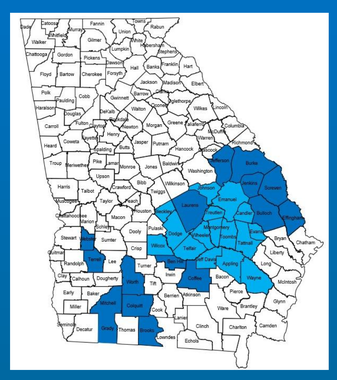

Sensor installation

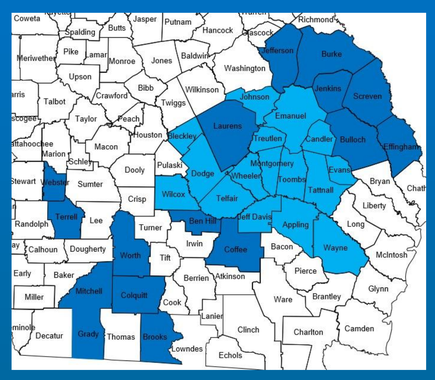

Sensor Removal

RESPONSE

The UGA Extension Ag Water team applied for and received a $75,000.00 grant through the Georgia Environmental Protection Division's Regional Water Councils to begin a Master Irrigator Program for Georgia. With its launch in 2023, the Master Irrigator began with 16 participants all in the Altamaha Regional Water Planning Council area. Funding for four additional participants were added each year through Georgia's Soil and Water Conservation Districts and other funding sources. In total, 31 counties, and 57 farmers as well as their agents have completed the program.

COUNTIES IMPACTED: (Original Altamaha Regional Water Council Area in light blue)





METHODS

The UGA Extension Ag Water Team trains farmers and county agents via group settings at the beginning and end of each program year. One central location was chosen in 2023 and then expanded to two training locations 2024 and 2025.

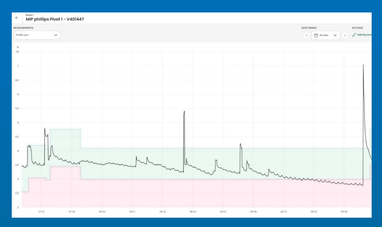

2025 Master Irrigator

SPRING MEETING AGENDA
- Acknowledging collaborators
- Field requirements
- Irrigation system requirements
- Types of sensors/installation
- Methods/data interpretation
- Application
- Advanced irrigation scheduling
- Irrigation Water requirements
- NRCS Programs

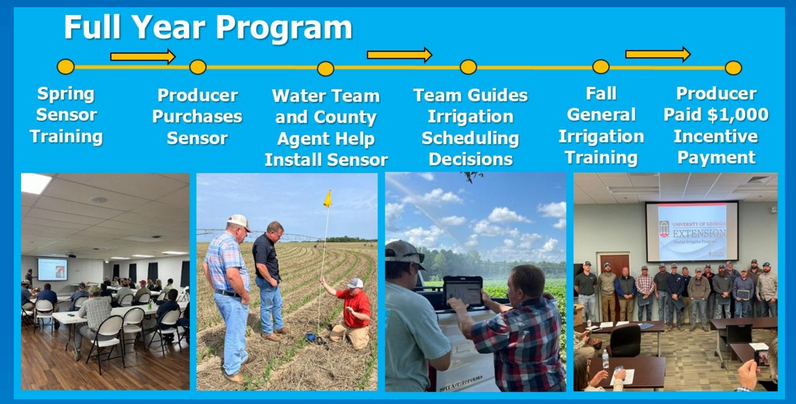
FALL MEETING AGENDA
- Partner introductions
- Efficiency, uniformity, chemigation and maintenance
- Irrigation scheduling aids
- Irrigation scheduling and profitability for row crops
- Types of sensors, Setting field capacity, refill and wilting point
- What happened in this year?
- Open forum discussion
- Preparations for next year

SOIL MOISTURE SENSOR DATA EXAMPLES

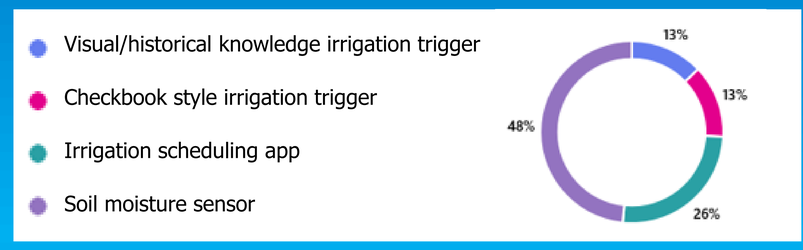
Two commonly used soil moisture sensors shown below provide the producer with real time accurate data via their smart phone and/or computer to aid in the decision-making process as it relates to crop water needs.


Cropx


Aquaspy

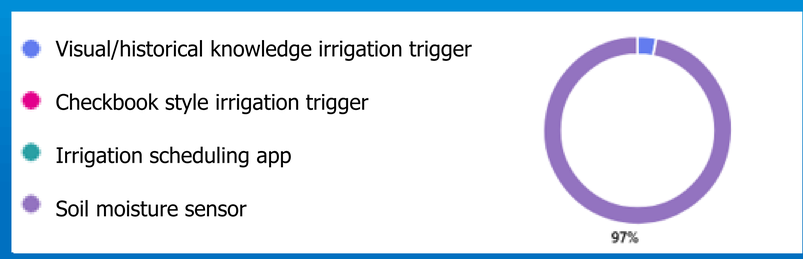


PRE-SURVEY RESULTS: Before the program which irrigation scheduling method were you least comfortable?



Before the program 87% of responses show participants were least comfortable with advanced irrigation scheduling methods.

POST-SURVEY RESULTS: After the program which irrigation scheduling method were you most comfortable?



After the program 97% of responses show participants were most comfortable with advanced irrigation scheduling methods.

RESULTS/IMPACT

Participants in the Master Irrigator Developmental Program have gained knowledge about innovative technologies such as soil moisture sensors and irrigation scheduling apps. Participants were surveyed before and after participation concerning their preferred methods of irrigation scheduling. Prior to participating in the program 55% of responses used visible plant stress or feel of soil, both of which are not reliable-scientific methods, whereas the post survey showed a 59% reduction in the utilization of these methods concerning irrigation scheduling procedures. Program graduates are now utilizing state of the art technologies to decide when to irrigate. With utilization of the knowledge gained and innovative technologies in the field, these producers are irrigating crops when the crops need additional moisture, and state water resources are being utilized more efficiently through this increase in knowledge gained in the Master Irrigator Program.