

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

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Ag Water Team

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## OVERVIEW

The participants attending the Master Irrigator Developmental Program (MIP) are being trained 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 an irrigation scheduling method can have a significant impact on crop yield, irrigation efficiency, and profitability. In the most recent United States Department of Agriculture NASS survey, 87 percent of Georgia producers use “visible stress” and 27 percent use “feel of the soil” as a method of applying irrigation. When used alone, both methods generally lead to yield and profit losses. In 2018, only 11 percent of Georgia producers reported that they were using soil moisture sensors.

## METHODS

The UGA Extension Ag Water Team trained 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. At these meetings, a pre and post survey was given to all participants. Topics covered in these meeting by the UGA Ag Water Team included: sensor data interpretation, irrigation system requirements, sensor location requirements, irrigation scheduling, sensor types, and soil characteristics such as field capacity and wilting point. The UGA Water Team members assisted the county agents and farmers with the installation process. Through text messages, field visits and phone calls, the group assisted the producers with data interpretation and making irrigation decision throughout the season.

## Farmer Survey Prior to beginning of MIP Spring Meeting

What form of irrigation scheduling are you currently using, not including the sensor you will use this year?



Participants started the program with very little experience in utilizing advanced irrigation scheduling methods.

## MIP Program Graduates and UGA Ag Water Team

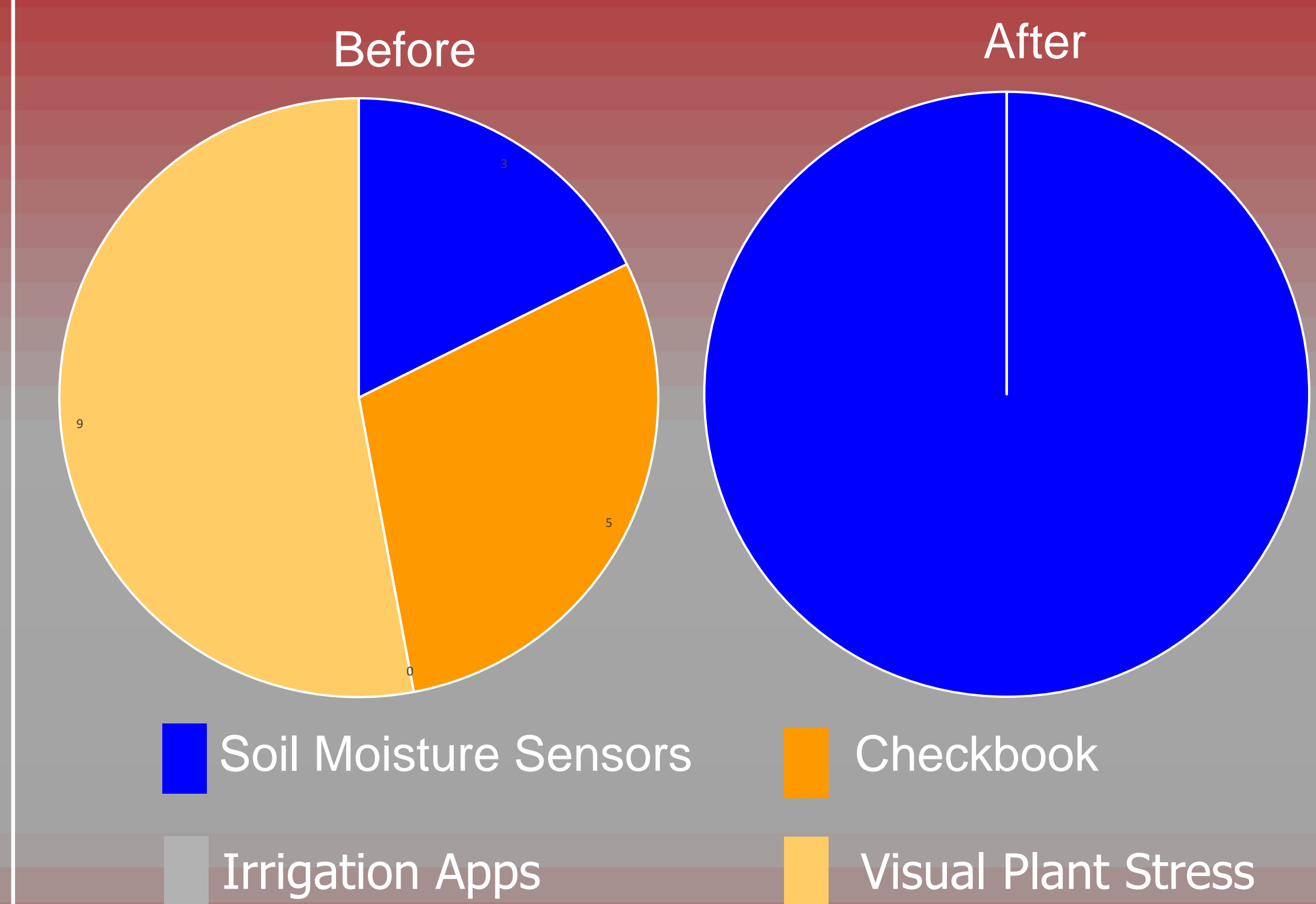


Participants were trained through indoor seminars and throughout the season with individual consultations and during the growing season.



Tifton                      Statesboro                      Emanuel County

## Methods of Irrigation Scheduling Farmers were Most Comfortable With Before and After Program Participation



Participants finished the program having more comfort in Soil Moisture Sensors than other methods of scheduling.

## 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 were either visible plant stress or feel of soil, both of which are not reliable-scientific methods. The post survey showed a 59% reduction in the utilization of non-scientific methods such as feel of soil and visible plant stress in future irrigation scheduling procedures. Program graduates are now utilizing state of the art technologies to decide when to irrigate. Through this program several have stated “I didn’t realize I needed to apply irrigation so quickly after a heavy rain event.” As stated by the most recent Supreme Court case, Georgia “has an obligation to make reasonable use of Basin waters in order to conserve that increasingly scarce resource.” 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.

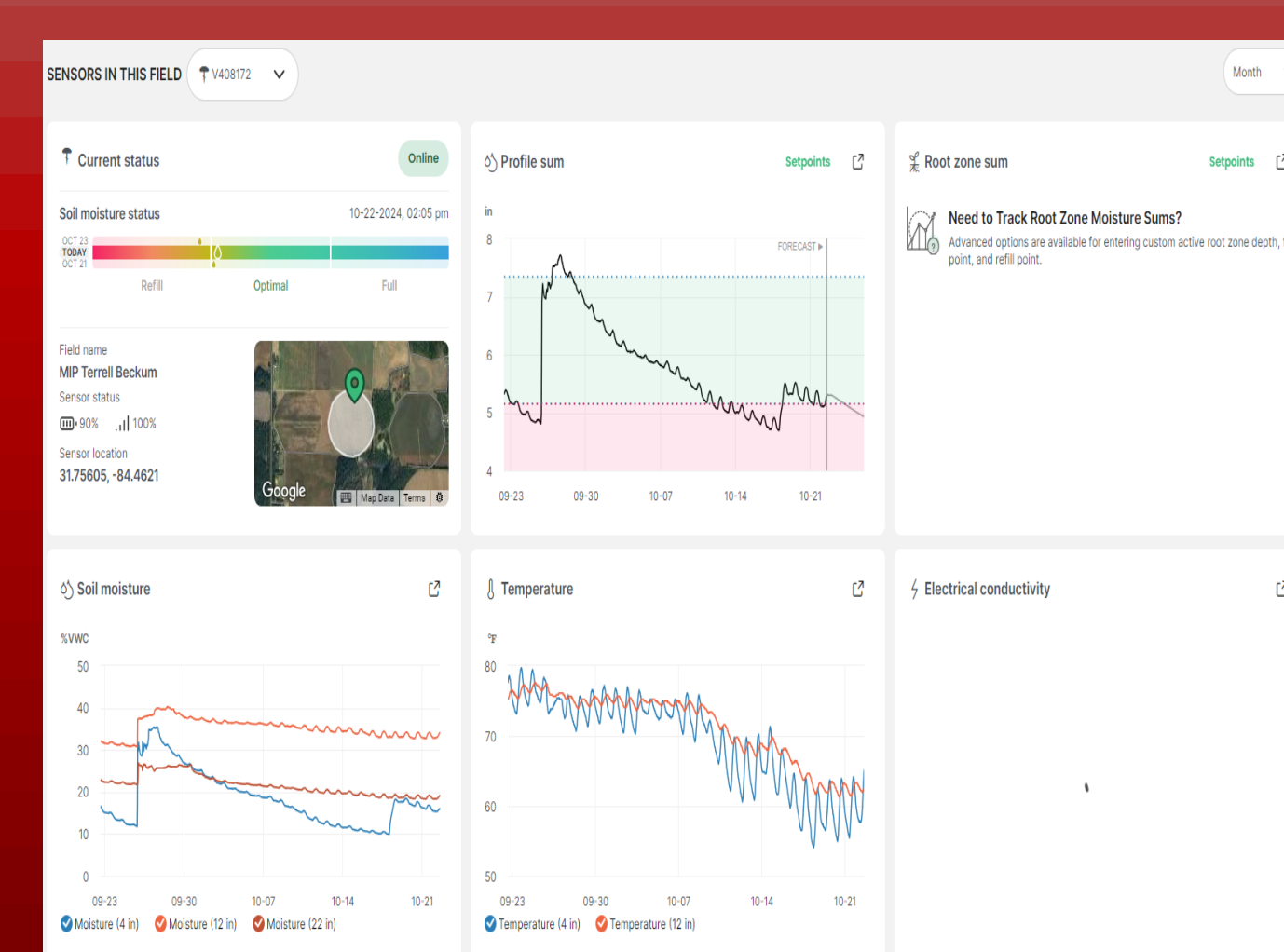
## RESPONSE

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 Developmental Program for Georgia. With its launch in 2023, the Master Irrigator Developmental Program began with 16 participants in the Altamaha Regional Water Planning Council area. Four additional participants were added through Georgia’s Soil and Water Conservation Districts and other funding sources for a total of 20 participants during 2023. In 2024 the participating counties has spread out across South Georgia with more counties outside the original area in the second year with hopes of further expansion in 2025.

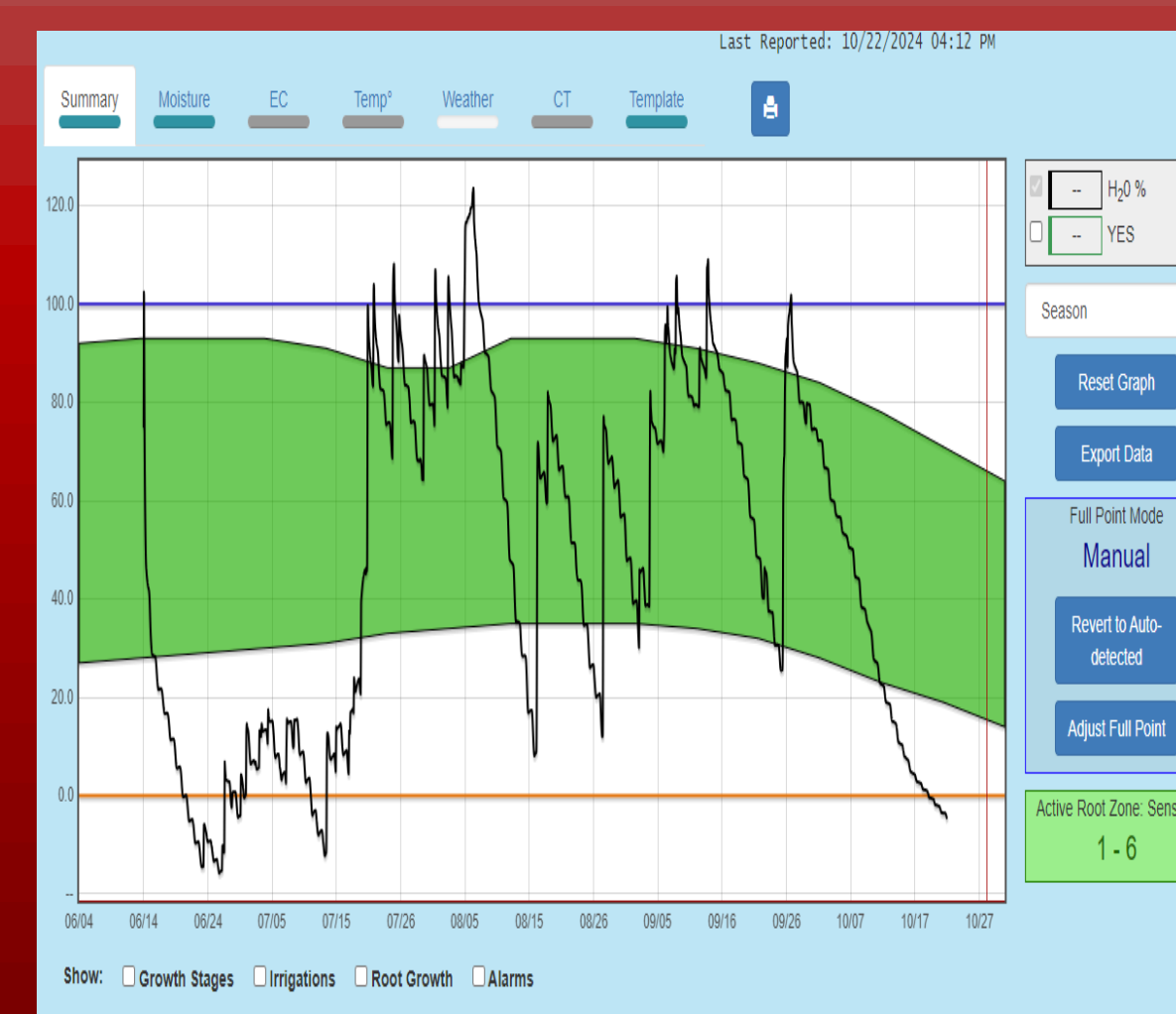


Demonstrating the soil moisture sensor installation and removal is an easy process

## Cropx



## AquaSpy



## Realm



Farmers were able to purchase the soil moisture sensor of their choice for the program. These irrigation management devices allow the farmer to view soil moisture readings from remote locations. These graphs show examples of the different technology websites for monitoring soil moisture.