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**DEVELOPMENT OF A WEB-BASED IRRIGATION SCHEDULER
BASED ON LOCAL WEATHER INFORMATION**

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PROGRESS REPORT

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Introduction

Several irrigation scheduling methods have been developed, including Irrigator Pro. These methods typically attempt to determine irrigation timing and amounts that match crop requirements. However, most of these systems do not integrate current weather information that is available via the internet and, therefore, may not optimize water use efficiency.

Objective

The objective of this project was to develop a web-based tool that will provide farmers with information to help improve irrigation management and reduce risks associated with localized weather and climate.

Progress

The irrigation scheduler is a web-based tool that calculates the daily water balance based on a checkbook approach. The system automatically retrieves local weather data from the Georgia Automated Environmental Monitoring Network (AEMN) based on the location of the farmer's field, and uses the data to determine the water requirements of a particular crop (Figure 1). Our activities this past quarter focused on improving the user interface based on suggestions made by extension specialists during a live demonstration of the web-based tool. We have added an option that allows a user to view a table of daily water balance for the whole growing season.

The AEMN irrigation scheduler was introduced to irrigation specialists and crop consultants during the Irrigation Scheduling workshop that was held on January 13-14, 2009 in Camilla, Georgia. We emphasized the need for a web-based irrigation scheduling tool that growers can use and tap into the near real-time local weather data provided by the Georgia Automated Environmental Monitoring Network. We also recognized the limitations of the system by designing it as a web-based tool – as opposed to a desktop computer version e.g. Kansas Scheduling (KanSched) tool. Listed below are questions that were submitted by the crop consultants:

- Can we include other crops (e.g. corn, cotton)?
- Can you include crop coefficients (Kc) to compute ETc (crop evapotranspiration)?
- Is there a way that you can have a feature on the irrigation scheduler where the grower can look at the possible ET or amount of water based on ET and Kc for the upcoming week (or the next 2 weeks)?

We will address the issues raised by our stakeholders and identify the important features that can be implemented within the scope of this project.

My Fields Add Field Options

Field Information

Field Name:

Zip Code:

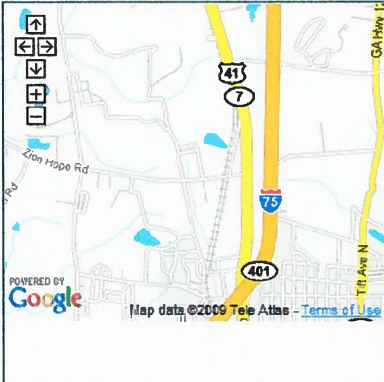
City:

Weather Station:

Location

Latitude:

Longitude:



Irrigation Module

Initial Soil Moisture: in. Date: 2008

Water Balance Threshold: in.

Irrigation: in. Date: 2008

2008	Precipitation (in)	Irrigation (in)	Evapo-Transpiration (in)	Water Balance (in)
Apr 25	0.00	0	0.21	1.59
Apr 26	0.00	0	0.20	1.39
Apr 27	0.03	0	0.14	1.28
Apr 28	0.26	0	0.13	1.41
Apr 29	0.00	0	0.20	1.21
Apr 30	0.00	0	0.21	1
May 1	0.00	0	0.23	0.77

Legend: Irrigate Check Adequate

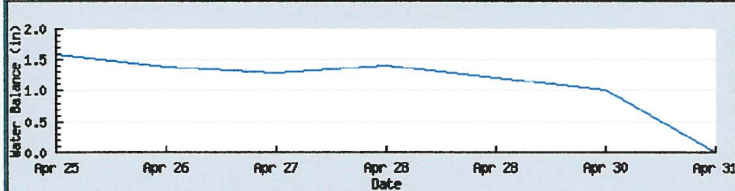


Figure 1. Sample data page used for entering a farmer's field information. Users can add information about irrigation events.