certain types of insecticides will flare spider mites, producers are beginning to utilize other chemistries less likely to flare mites when they are present in the system.

This paper will address ways producers can minimize their losses from some of the most damaging insect pests of cotton in the mid-south.

Program 6C-2

Practical Irrigation Scheduling In Cotton

Presented by Dr. Leo Espinoza
Associate Professor and Extension Soil Scientist, University of Arkansas

Irrigation management is of paramount importance to maximize yield potential in cotton. Lint quality and quantity are affected by water management. A 2008 irrigation survey conducted by the Cotton Advisory Committee indicated that irrigation water pumping represents 49% of the energy consumption in cotton production. The survey results revealed needed improvements in scheduling cotton irrigation. More than half of the growers responding to the survey stated that visual assessment was the preferred method to schedule irrigation, which normally results in excessive irrigation. For the last 5 years, a demonstration project using atmometers or ET gages, to schedule irrigation, has been underway in Arkansas. Results show the atmometers provide reproducible estimates of potential evapotranspiration and can be placed 3 miles apart. Evapotranspiration readings were collected every 3 days, with soil moisture deficit to trigger irrigation set at 2 inches for silt loams and 3 inches for clayey soils. Significant water savings have been achieved using this approach. During the 2010 season, more than 10,000 acres were irrigated following this approach, but this figure may increase as collaborators plan on increasing the number of acres. The objective of this talk is to present results of such project, including experiences implementing such approach at a whole farm scale.

Program 6C-2

Using Wireless Soil Moisture Sensors For Increased Yields

Presented by Dr. Joe Henggeler
State Irrigation Extension Specialist, University of Missouri

Wireless soil moisture sensor technology combines two things:
(A) traditional soil moisture monitoring (e.g., with gypsum blocks, tensiometers, etc.).
(B) wireless communication.

The end result is that the soil moisture status of one's crop can be monitored 24-7 from a computer or smart phone. A farmer can see how much rain the field got, how deep it soaked, and the water being slowly extracted from the soil at different depths. The sensor technology has been available for about 100 years, but coupling it with wireless technology has imbued it with new synergism. Ordinarily, sensors were read periodically, in the order of once a week. This provided a SNAPSHOT of the root/soil/moisture complex for the farmer to make management decisions about irrigation. After sensors were tied to data-loggers the farmer was given a HOME VIDEO of the root/soil/moisture complex for making these decisions. Tying the data-logger to wireless technology quickly followed, and now an irrigator (once the sensors are installed) only needs to turn on his computer to see the current soil moisture situation in his fields.

Farmers seem ready to embrace this new technology. Three Wireless Irrigation Sensor workshops were scheduled a year ago in Missouri with over 100 attendees, most of them farmers, signed up for the workshops. Wireless sensor companies present were Decagon,