

AgriLife Extension helping data-gathering equipment ‘speak’ the same language

*New precision irrigation project ready for test phase*

AMARILLO – Agriculture production today is very data sensitive and includes many tools with technologies that don’t all work well together. One Texas A&M AgriLife Extension Service specialist is bringing a project to the High Plains to change that.

But he needs some producers to do field testing.

Dr. Charles Hillyer, AgriLife Extension irrigation engineering specialist in Amarillo, is part of the Precision Ag Irrigation Leadership, or PAIL, project.

Hillyer, who joined AgriLife Extension almost a year ago and brought with him his data exchange standards work from Oregon State University, said they are in Phase 2 of the project and need farms to field test the draft version, which is currently supported by six major irrigation-related product manufacturers.

The idea is to make the soil maps, weather stations, soil sensors, flow meters, variable rate irrigation hardware – the tools now used to help with irrigation scheduling – a simpler part of crop production, he said.

“Growers need to be able to buy solutions for irrigation management instead of a bunch of widgets,” Hillyer said. “We are developing a data standard to help new data-driven technologies work together without making more headaches for the producer.”

The program was field-tested on two farms in Kentucky and Washington in 2015 and the group has been able to demonstrate the data flow all the way from the soil moisture monitoring devices to the producer, he said.

“Last year we had Valley, Ranch Systems, Campbell Scientific, AgSense, Irrinet and Ag Connections on board for our testing phase,” Hillyer said. “Now we need producers who are willing to work with us and have some of these products already in place on their farm or who are planning to install them.”

He is currently testing PAIL on a variable rate irrigation pivot system at the AgriLife Research farm near Bushland and will work in the next year or two to get it implemented with the U.S. Department of Agriculture Agricultural Research Service weighing lysimeters also at Bushland, as well as the other irrigation systems used for research purposes by both agencies.

Hillyer said they are also going to work with drip irrigation, so he’s interested in talking to producers with drip irrigation already installed and manufacturers.

The project was initially funded by the Northwest Energy Efficiency Alliance and is now supported by more than 20 irrigation equipment and related product manufacturers, Hillyer said. The project is also supported by a grant from the Ogallala Aquifer Program.

He and others in the PAIL project are working through AgGateway, a nonprofit organization that supports industry collaboration in agriculture, to develop a common set of data standards and formats to be adopted by the manufacturers.

“This will allow integration of all the information into Farm Management Information Systems,” Hillyer said.

He said a producer can choose to combine as many or as few of the different practices and pieces of equipment he utilizes on his farm to help come up with a recommended action.

“Basically what the program does is make it easier for the producer or a crop consultant to meet his customer’s needs,” Hillyer said. “The PAIL language also helps with data that will make reporting easier to the water districts.”

During this proofing phase, he said there might not be a big benefit to producers participating in the testing. But in the long run, they will be helping farmers across the nation once the system is completed.

“It will help us promote the PAIL concept to get other manufacturers to adopt it,” Hillyer said. “In five years, our goal will be to have a PAIL logo on equipment that will signal to farmers that piece of equipment will talk with their other devices.”

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