

MISSISSIPPI LANDMARKS

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During the annual MSU-CVM Open House, children can explore scientific careers through hands-on activities... page 12

Research, Education, and Extension in the Division of Agriculture, Forestry, and Veterinary Medicine
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Extending Knowledge, Changing Irrigation Practices

When Dr. Curt Lacy started work as the regional coordinator for the Delta region of the MSU Extension Service in Stoneville in 2015, his mandate was clear: improve program planning and delivery at the county level. He wanted to make an immediate impact and looked for a niche.

"What could we do that was important to the farmers in this area and that would have immediate impacts?" Lacy asked. "The answer was irrigation."

Many Delta producers rely on crop consultants for recommendations. But Lacy found the irrigation program needed more boots on the ground, and Extension agents could meet this need. So he and Extension irrigation specialist

Dr. Jason Krutz applied for a grant through the Southern Sustainable Agriculture Research and Education (SARE) program.

SARE is a U.S. Department of Agriculture grant program focused on funding research and outreach for innovations that improve farm profitability while protecting land and water. It funded Lacy and Krutz for a 2-year Professional Development Program proposal designed to get training that results in a nationally recognized professional certification for Delta Extension agents and Krutz's irrigation team.

"Krutz trained our agents, and for 2 years they will go to the Irrigation Association's national Irrigation Show and

Education Conference to take more classes and then take the test to become certified ag irrigation specialists," Lacy explained.

The grant also funded the equipment agents need to provide on-farm demonstrations and technical assistance, such as laser levels, flow meters, and irrigation sensors.

"With this equipment, agents will be able to work with their clients to do a traditional demonstration, which involves the agent using all of the tools to time irrigation while the farmer uses his existing methods to make irrigation decisions," Krutz said. "Or, if someone is already a believer in the process and they want help setting up their farm using the equipment or setting up Pipe Planner software, the agents can help with the computerized hole-selection process."

Delta Plastics Pipe Planner is a web-based application designed to help farmers create the most efficient irrigation systems for their row crops.

Computerized hole-selection tools specify the size of holes that should be punched into polypipe irrigation to release the right amount of water into the furrow.

Krutz said the goal is to decrease water use in the Delta while making the farmers' businesses more profitable. In his role as an associate Extension/research professor, Krutz has built years of data showing the effectiveness of using technology to better inform crop-management decisions.

"In soybean, we reduced water use by 28 percent while maintaining yield and profitability," Krutz reported. "For corn, we improved yield by 7 bushels per acre, reduced water use by 41 percent, and improved profitability by \$40 per acre. For rice, we maintained yield, reduced water use by 28 percent, and improved profitability by \$30 per acre."

A recent United Soybean Board survey demonstrated Krutz's effectiveness



(Photo by Kat Lawrence)



Curt Lacy (left) and Dr. Jason Krutz promote innovations that make farms more profitable and protect the state's land and water. (Photo by Kevin Hudson)

...sharing this data. It found that 59 percent of Mississippi producers are using computerized hole selection, 60 percent have used soil-moisture sensors, and 20 percent have used surge valves. Krutz said fewer than 5 percent of producers used this technology 6 years ago.

Compared with their peers across the country, Mississippians are ahead of the pack. Nationally, about 1.5 percent of producers use soil-moisture sensors, according to a recent USDA National Agricultural Statistics Service report.

As word gets out that more Extension personnel are trained, certified, and equipped to help producers adopt these technologies, Krutz hopes those statistics will improve even more.

"Water is one of our most precious natural resources, and we want to conserve it for future generations of Mississippians to enjoy," he concluded.

By Keri Collins Lewis



Alex Deason (left), an Extension agent in Sunflower County trained under the SARE program, discusses an irrigation flow meter with client Adam Snell of Inverness, Mississippi. (Photo by Kevin Hudson)