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Program gauges farm-runoff curbs



[Andy Shupe](#)

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Lawrence Berry, a crop, soil and environmental sciences program technician at the University of Arkansas, makes adjustments to equipment at a collection station Tuesday at Jeff Marley's farm near Elkins.

By [Teresa Moss](#)

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ELKINS -- Hills painted with fall colors roll past as Jeff Marley looks out at a row of red chicken houses on his 2,000-acre farm in Elkins.



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Jeff Marley (left), co-owner of a poultry farm south of Elkins, and Andrew Sharpley, a professor of

"I don't want what I am producing to have a negative impact on anyone else," Marley said. "The bottom line is that it would affect my livelihood."

Marley said that is why he agreed to be a part of a program that collects data on nutrients, from such things as chicken liter, found in water runoff at his farm.

The Discovery Farms program was started in 2009 as a collaboration of private and public entities, including the University of Arkansas Department of Agriculture and the Arkansas Farm Bureau.

"We are working to document the conservation practices farmers are

crop, soil and environmen... (By:
Andy Shupe) (Credit: © NWA Media)

putting in place and how well they are working or not working," said Andrew Sharpley, co-manager of the program.

Sharpley said the program is using scientific methods to collect data and locking testing equipment so it can't be tampered with.

"It is done in this way so that the data can withstand scrutiny," Sharpley said.

Equipment consists of piping that sucks up water along runoff pathways, Sharpley said. He said sensors react when water runs past. About a cup is sucked up for every 5,000 gallons of water, he said.

A text message is sent to program staff members alerting them of the water samples collected, Sharpley said. The samples must then be collected within 24 hours for testing.

Marley's farm was the first to have the equipment installed in 2012, Sharpley said. The equipment was set up to test water running off from 10 chicken houses on the farm.

Runoff from one group of houses flows into a reservoir created by Marley, Sharpley said. Water from the second group flows through a 700-foot section of pasture before eventually running into a small creek that meets up with the White River. Water in the White River then flows into Beaver Lake.

One set of testing equipment was located right before runoff enters the reservoir. Another was installed where the chicken house row ends. The third set of equipment collects water before the runoff enters the stream.

Marley said he purposely placed the chicken house between the reservoir and the field because he hoped it would reduce nutrients flowing into the stream. He said that without data he doesn't know how well the method is working.

"I have no way of knowing those numbers on my own," Marley said. "Discovery Farms will give me some data."

Sharpley said preliminary reports show that Marley's pasture is working to reduce nutrients.

"As runoff from around the poultry houses passes along about a 700-foot pasture that works as a buffer strip. The concentration of nutrients decreases by two-thirds," Sharpley said.

Also, the reservoir is working by capturing 75 percent to 90 percent of the nutrients, Sharpley said.

Sharpley said data are still too preliminary to release. He said it could take three to four years before the program produces trustworthy data. That is because water runoff changes with the weather. A dry season will produce different data than a wet season will, he said.

Discovery Farms tracks data on eight farms across the state, Sharpley said. He said the farms produce a variety of products, including chicken and beef and crops such as soybeans, wheat, rice, corn and cotton.

Farmers are allowed to choose which practices they want the program to track, Sharpley said.

"We are working for them," Sharpley said. "The idea is that the farmers are able to promote their own conservation efforts."

Farmers have some personal interest in practicing conservation efforts, Sharpley said. He said there is some concern that federal groups like the Environmental Protection Agency could implement regulations on farms in the future.

Marley said he wants to practice conservation practices now in hopes he can avoid having to have the regulations.

"If all of a sudden we start having high levels of nutrients in the river and they can put this farm as the point

place, then I am going to be regulated," Marley said.

Farmers need independence to operate successfully, Marley said. He said restrictions could damage the productivity of his farm.

"I am hoping to verify my practices with this program," Marley said.

John Pennington, Beaver Watershed Alliance executive director, said farmers are often blamed for pollution of water sources in the region.

"It is pretty easy for agriculture to be a target a lot of times for water quality," Pennington said. "Not everyone is a good manager, and that is why."

Pennington said when it comes to water pollution everyone seems to think everyone else is at fault.

"The people who don't farm think it is the farmers' fault, and the farmers think the biggest polluters are the developers," Pennington said. "Really it is everybody. Everybody has a role to play."

The Discovery Farm program helps farmers find best practices, Pennington said. Farmers in the program are examples of people who want to make a difference.

"There are people like Jeff Marley who are willing to take on this opportunity and say, 'Well how am I doing on my farm? Is there anything I can do to make it better?'" Pennington said.

Farmers and the public will receive information about best practices from the program, Pennington said.

"Without that program, there would be a real important piece of information that we would be missing out on," Pennington said. "We are really fortunate here in the state to have it."

Sharpley said once data are collected, the plan is to have farmers in the program share the information with other farmers. He said it's hoped that other farmers will be willing to use practices that work for their neighbors' farms.

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