

Farmers mend their watering ways

By [Larry Copeland](#), USA TODAY

CAMILLA, Ga. — Water conservation hasn't always been a top priority for farmers in this southwest corner of the state. That's because water has been plentiful in the Flint River Basin. But the Southeast has endured several droughts in recent years, and this year, 87% of Georgia is in some stage of drought. The state also is locked in a 2-decade-old water war with Alabama and Florida over two major river basins.

So many farmers were willing to listen when the Nature Conservancy, the Department of Agriculture and the Flint River Soil and Water Conservation District, offered to help them conserve water.

They improved the efficiency of irrigation systems by adding low-pressure nozzles that reduce evaporation loss, and they started using soil moisture monitors that eliminate guesswork about when to water.



A few began using a new computerized system that allows them to spray water onto crops exactly where it's needed without wasting it in bogs or other unplanted areas.

Those efforts are paying off: Since 2003, farmers in southwest Georgia have conserved more than 10 billion gallons of water over 75,000 acres — enough to meet the annual water needs of more than 250,000 people, according to the Flint River Basin Program.

"What's encouraging about what they're doing in Georgia is that it can be duplicated elsewhere," says Doug Toews, national water management engineer with the U.S. Department of Agriculture's Natural Resources Conservation Service. "It's been a success, and it's very workable. The impacts are significant."

Variable rate irrigation

Farmers here and in Alabama, Arkansas, Florida, North Dakota and South Carolina use a technique called variable rate irrigation, or VRI.

The farmers' irrigation systems — huge metallic structures that roll across fields spraying water — have been modified with electronic circuitry that makes it possible for farmers to program precisely where the water goes.

Farmers using the method reduce their water use by about 17% on average.

Larry Clemens of the Nature Conservancy says similar systems have been used in the West. The new technology costs \$18,000-\$27,000 for each irrigation device.

"It's relatively new technology, and it's rapidly growing in acceptance and use," Toews says. "It's representative of the challenges various communities across the nation are facing with competition for water resources."

David Holton, 53, who farms 2,300 acres near Camilla, modified one of his 17 irrigation systems with VRI about three years ago.

By irrigating only where crops are planted, Holton says, he saves 612,000 to 714,000 gallons each time he waters that field, at least once weekly when it doesn't rain.

Until the late 1970s, farmers here relied on Mother Nature to water their crops, primarily cotton, peanuts, corn and soybeans.

Center pivot irrigation systems — long, spindly, devices on wheels that "walk" slowly across fields spraying water — were virtually unknown.

In 1970, Georgia had 87, according to Calvin Perry, superintendent of the University of Georgia's C.M. Stripling Irrigation Research Park here; today, it has more than 11,000.

Water usage

Nationally, agriculture is the top user of fresh water, consuming roughly 75% of the supply. That balance is being challenged in some parts of the USA, especially the arid West, where fast-growing metropolitan areas such as Phoenix and Las Vegas covet water allocated for farming.

In the Southeast, drought and long-running water wars have forced a re-examination of traditional irrigation practices.

Other water conservation methods are being explored in some of these areas.

Farmers in the western Great Plains states of Texas, New Mexico, Oklahoma, Kansas, Colorado, Nebraska, Wyoming and South Dakota are moving away from traditional irrigation practices that mimic rainfall.

They are converting to sub-surface drip irrigation, "where the lines are buried below ground," Toews says. "You only put water where the roots are."

In the drought-vulnerable Klamath River Basin of northern California and southern Oregon, the Agriculture Department helps farmers use more efficient irrigation methods, Toews says. More than 33,000 salmon died in the area in 2002 when the use of scarce water for irrigation came at the expense of fish and wildlife.

