

Delta Farmer Works with NRCS to Eliminate Nutrient Runoff

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Sunflower County, Miss. — About a year ago, Adron Belk was studying real estate at the University of Mississippi. Now, he's farming some 2,700 acres in the Mississippi Delta.

Was he surprised? Not really, the 22-year-old said.

He was born and raised in a farming family. He loves farming. And plus, the bachelor's degree in real estate is helpful when it comes to finding the right land to cultivate.

Belk farms in the Delta, where his fields are located near the Sunflower and Yalobusha rivers. The proximity of his land to these tributaries of the Mississippi River means his farming operation could have an impact on the health of the Mississippi River and the Gulf of Mexico.

But Belk is working with the Natural Resources Conservation Service (NRCS) to make sure no pollutants, fertilizers or sediments runoff his fields and into natural water bodies.

"I'm in support of anything that is better for the land," Belk said. "Farmers like us live off the land, and we have to take care of it."

Called the Mississippi River Basin Healthy Watersheds Initiative (MRBI), this toolbox of cost-share programs reduces agriculture's impact on water quality. MRBI is one of the NRCS' landscape initiatives that targets conservation practices to regions to have a positive outcome.

Pollutants, fertilizers and sediments that are washed from farms can degrade water quality, causing oxygen to be depleted from the water, among other environmental problems.

This initiative works with farmers like Belk to trap pollutants and prevent them from entering natural water bodies.

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Belk implemented a tailwater recovery system on 280 acres, meaning he used levees, canals and a storage pond to separate his property from the watershed. This allows for water on his farm to stay on his farm.

Water from rain and irrigation is collected by a network of ditches and pumped into an 18-acre storage pond. When it comes time to irrigate, Belk is able to use the water from the pond to water his crops.

Levees keep water from leaving the site, allowing his farm to operate on its own separate water system.

“The tailwater ditch gives the suspended sediments time to settle, reducing the nutrients that enter Porter Bayou,” NRCS Soil Conservationist Trinity Long said. “The finer sediments are pumped into the irrigation storage pond and given even a longer time to settle. Trapping these nutrients before they enter Porter Bayou has a positive effect on the Sunflower River where endangered freshwater mussels live.”

Not only does this stop pollutants and fertilizers from leaving Belk’s property, but it also minimizes his reliance on underground water sources for irrigation. This system saves 35.3 million gallons of water per year.

The Delta has seen alarming drops in its aquifers, so this tailwater recovery system not only improves water quality but increases water quantity.

Implementing these cost-share practices also improved his farming operation. Through MRBI, Belk was able to bring his farm to precision level ground, allowing him to farm it more effectively.

Precision level farming also allows Belk to better irrigate and remove water from the land. Getting water off the land when in excess is just as important to farmers as is watering crops, Belk said.

“This is a great example of how the NRCS and a farmer can help the environment and work with the farmer to increase production and efficiency,” Long said.

Partnerships Increase Conservation Success

The impacts of MRBI are part of a larger strategy to reduce nutrients by different state and federal agencies as well as non-governmental organizations and landowners. The Nutrient Reduction Plan has enabled Mississippi to leverage various program funds from the U.S. Department of Agriculture and U.S. Environmental Protection Agency, including MRBI, the Environmental Quality Incentives Program (EQIP), Conservation Innovation Grants (CIG) and 319 funding.

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Feature Story



Adron Belk shows a drainage ditch on his Sunflower County farm. This is part of a larger system to conserve water and improve water quality.

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