

# Great Lakes Restoration Initiative Success Story

## From the Concrete to the Hypothetical Putting the Pieces Together



Dan Brick of Brickstead Dairy knows the stakes. He is fully aware of the water quality issues swirling around the dairy industry in Northeast Wisconsin. He is a conservation and community leader, and is committed to finding win-win solutions to maintain both environmental quality and the agricultural heritage of the area. He is working on the leading edge of many different fronts, from the concrete to the hypothetical.



### Concrete

The 800 milking cows at Brickstead Dairy produce both milk and manure in abundance. Through the Environmental Quality Incentives Program, Dan recently invested in an additional 2.9 million gallon concrete manure storage structure, to safely contain manure and milkhouse waste through the winter, until it is safe to spread as fertilizer on the 900 acres of crop and hayland.

### Cover Crops

Cover crops are a key part of Dan's conservation plan to reduce runoff of soil and nutrients from cropland. The cover crops utilize phosphorus, build organic matter, and improve water infiltration and holding capacity. Dan is continuously tweaking the seeding mix, timing and planting to get the best results.



*A mix of radish, red clover and barley were aerially seeded in September onto standing corn. When the corn was cut for silage, the seeding was already established and grew quickly.*

This year, he tried a mix of radish, red clover and barley, seeded by airplane in mid-September before the corn was harvested for silage. This allows the seed to get started growing before the corn comes off. Then, when the corn is harvested the cover crops get full sun and grow quickly, covering the bare soil.

“We need to keep the phosphorus on the field, not lose it to runoff,” says Dan. And he wants to prove it with hard data.

## Monitoring

Brickstead Dairy is one of four special Demonstration Farms in the Fox River Watershed through the Great Lakes Restoration Initiative.

Dan agreed to be a demonstration farm because he wanted the opportunity to do the research and gather the data on nutrients and cover crops. He wanted to see real data on how different cover crop systems are reducing phosphorus in runoff, and also for tile drainage systems. As a demonstration farm, he can help build the data base needed to find out the best cover crop practices to reduce phosphorus loss.

Through US Geological Survey, a unique water quality monitoring system was installed in early 2014 to measure sediment and nutrient loss from a test field in surface water runoff, as well as the nutrients coming off the field through the tile drainage system.

He is expecting to see significantly reduced phosphorus coming out of the tile lines when cover crops are used in combination with regular crops.

“We need to do our part here in the dairy industry,” says Dan. “We need to be ahead of the game. In five years, there will be cover crops on every piece of ground.”

## Hypothetical

Dan is also participating in the Fox River Watershed Phosphorus Trading Pilot Project, with the Great Lakes Commission and Brown County Land and Water Conservation Dept. Phosphorus Trading means that industries that produce phosphorus could buy credits from farmers who are reducing their phosphorus contribution to the watershed. It is lower cost for the industry to meet overall goals and helpful for the farmer. This pilot project is developing a model for how this could work in the real world of the Fox River Watershed. Dan is participating as a hypothetical seller, by providing all the nutrient data he can to develop a realistic market and pricing system.



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