



CASE IN POINT

- LOCATION:** | Tekrony Dairy
Castlewood, S.D.
- SITUATION:** | 1,700 acres
- CHALLENGE:** | Pump gray water from dairy lagoon to fields up to five miles away
| Eliminate cost of third-party pumping
- DEPLOYMENT:** | Valley® Irrigation Variable Frequency Drive (VFD)
| Corrosion resistant, floating pump station with riverscreen
| One Valley 8000 series center pivot
- EFFECT:** | Saves more than \$120,000 in pumping cost annually
| Improves the dairy operation for the next generation

Custom Pumping Solution Reduces Cost of Reusing Water from Dairy Lagoon

Dairy farming is a way of life for Wayne Tekrony of Castlewood, S.D., and his family, just as it was for the previous generation. For 67 years, the Tekrony family has operated Tekrony Dairy while farming 1,700 acres.

“Dad bought the place in 1950, and I was born here,” Wayne explains. “We’ve been milking cows here ever since. The farm has changed over the years, but we started as a dairy back then, and we’re still doing that today.”

Tekrony Dairy milks around 600 cows. In addition to running their dairy operation, they farm corn, alfalfa and soybeans in rotation on roughly 1,700 acres of ground. “We usually have around 900 acres of corn, 350 acres of soybeans, and 400 to 450 acres of alfalfa,” Wayne says.

In the fall of 2015, Wayne decided that he needed a change in the way his operation dealt with its gray water. He got in contact with his local Valley dealer, Farmers Implement and Irrigation in Brookings, and the Valley water management team to come up with a new solution to take their dairy into the future.

Improving the Operation for the Next Generation

Wayne has undertaken many improvements to prepare the operation for the next generation. “My dad’s not alive anymore, but he would be pleasantly surprised at what the dairy looks like today,” he remarks. “My son, Jeff, is in charge of the milk cows now. My son-in-law, Jarrod, oversees the calves, and they both work together. We all work together on the farming side of things.”

Gray water from the dairy’s lagoon is used to irrigate some of the fields, Wayne explains. The farm’s five-stage lagoon process looks like this, according to Wayne: “We have sand lanes, and we have a flume pump in the bottom lagoon. The fifth stage brings water back up to the barn, and it runs through a 24-inch pipe.



When the alleys in the barn are scraped, they push the manure into a gutter in the middle of the barn, and the water carries it out to a sloping cement pad about 300 feet long that slows down the water a little bit. The sand settles out, and the manure and the water go into the ponds. The first three ponds catch the majority of the solids, and the bottom two clean up the water.”

To utilize the gray water from the lagoons, Wayne originally hired a company to pump the water over a distance of up to five miles to reach the land that needed the nutrients most. “It becomes quite an involved process when you pump it that far,” Wayne recalls. “I think there were three booster pumps in those five miles of hose.” After seeing how expensive the process of pumping the gray water had become, Wayne decided it was time for a change. “Two autumns ago, it cost us about \$120,000 to pump,” he notes. “That was just too much.”

Paul Burns at Farmers Implement and Irrigation in Brookings worked with the water management team to resolve Wayne’s gray water problems. Together, they designed a custom pumping solution that included a floating water pump with a riverscreen and a Valley variable frequency drive. Water is now pumped from the dairy’s fifth lagoon, after a majority of the solids have been removed, to a new Valley 8000 series center pivot.

“Paul’s really a good guy. He helped us out, designed the thing, and told us what he thought we should have. It was a piece of cake, because Paul knows what he’s doing,” Wayne says.



Results and Peace of Mind

After one season with the new pumping solution installed, Wayne couldn’t be happier with the results. “We have special sprinklers that have a little larger hole in them, but we also have a screen down in the lagoon. Paul set that up,” says Wayne. “As far as solids, I don’t believe that is going to be an issue. It sure wasn’t last fall when we pumped about three million gallons through the pivot. Not one clog.”

And though Wayne doesn’t feel the need to worry about the pumping station or his new Valley center pivot machine, he takes comfort in knowing that help isn’t far away. “We’re 40 miles from Brookings, and Paul is only a phone call away,” says Wayne. “Those guys are great. I can’t say enough good things about the guys at the dealership.”

Looking back on his business decision to install a center pivot and pumping station, Wayne is pleased with the money saved on pumping costs. Even more important is the satisfaction that comes from knowing that he has updated the operation for the next generation of Tekrony farmers.

“I wouldn’t even have this size of dairy if the boys weren’t interested in this,” Wayne reflects. “It’s all about family, as far as I’m concerned. Providing them with something like this for the future is the most important thing I could do. That’s what any father’s wish would be: to pass something on that’s better than it was when he started.”

