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FEATURED

Eastern Shore Dairy Goes All In for Robots

Michael Short, Delmarva Correspondent Jun 29, 2018 Updated Jul 2, 2018



The Jersey cows at St. Brigid's Farm are fitted with collars that allow the robot to track production and milking times, and provides the farmers useful information.

Photo provided by St. Brigid's Farm

KENNEDYVILLE, Md. — St. Brigid's Farm is one of only two dairy farms in Maryland using robots for milking.

The relatively new technology saves labor and provides farmers with more flexibility because they don't have to adhere to rigid milking times, though the machines themselves are expensive.

In April, farm owners Robert Fry and Judy Gifford installed a robot on their farm near Chestertown. They milk about 60 Jerseys and have a beef and veal operation on their 62-acre farm, which has been planted in permanent pasture. The result is lush pasture consisting of perennial mixed grasses and clover.

Fry said they wanted to focus on grazing and that permanent pasture reduces erosion and provides quality grasses for their animals.

They carefully rotate their pastures so the cows always have fresh grass.

“They don’t like leftovers,” Gifford laughed.

The robotic milking system allows the cows to be milked whenever they want. They simply nose aside the gate and step into a small enclosure where the system reads each numbered cow individually. Each cow gets food; the amount varies depending on the animal. The cows have been mapped so the machine knows where the udder is and where to attach itself. Cameras make sure there’s no error in the placement.

Since different quarters of the udder can vary, the robot can read that and keeps quarters from getting over milked, Fry said.

A steady stream of data shows the amount of food given to each cow and the amount of milk each cow produces. It also shows how much food is eaten.

Heat sensors help determine when each individual cow is coming into heat.

“There’s just a ton of data,” she said.

Cows can be milked up to five times a day, and the couple expect overall production to increase. The robot can sense if a cow has been milked too often and will withdraw the food and refuse the cow, he said.

“They can’t come back around and get another (food) treat,” he said.

In case of a problem with the system, the robot is designed to call their smartphones to alert them.

Fry said they try to strike a delicate balance between the amount of time cows spend on pasture, the time they have access to food and the time they have access to the robot.

St. Brigid's Farm is named for the popular Irish saint considered the patron saint of scholars and dairymaids. She is often pictured with cows at her feet.

"St. Brigid perfectly represents the pairing of Judy, the dairymaid, and Bob, a veterinarian, the scholar," according to a farm brochure.

"It's given me a lot more flexibility and it's a challenge to do something different than the same old thing we were doing for 20 years. It's really fun. It's still very new, but I think it will be fun for a long time," Gifford said.

"Designing a new system and adopting a new way of thinking was just the challenge we needed to stay interested in dairy farming as we entered our third decade in the business," according to the farm's brochure.

The couple said that increased time flexibility is a major advantage of the Lely Astronaut 4-A system. It also reduces the need for labor, which can be hard to find.

Gifford said the system might allow them to stay in the dairy business for much longer.

"It's finding a niche because of the labor," she said.

The couple feel the robot fits into the three core principles they say the farm is based on: economic viability, community involvement and environmental stewardship.

The first robotic system was installed 17 years ago. Statistics show that less than 5 percent of America's milk comes from cows in robotic systems. The couple thinks low milk prices have slowed the number of farms switching to robotics.

"It's already a trend," Fry said.

The St. Brigid's system runs on compressed air, so it's very clean, he said. In case of a power outage, they have a generator as a back up.

The only obvious drawback to the robot is that it is expensive. Fry estimates about a five- to seven-year payback on the system.

The couple said the cows adapted quickly and became used to the robot in a matter of days.

“They caught on very quickly. They really like it. They wouldn’t be lined up if they didn’t enjoy it,” she said. “I didn’t expect to like it as much as I do. I adapted as easily as the cows.”

As part of their community involvement, the couple have welcomed tours of the facility. A Future Harvest CASA workshop was held last month. About 400 people have visited the farm in three months, many of them third graders.

“They just think it’s fascinating. It was good for agriculture,” she said.

Fry said that it’s a misconception that robotic systems do the work for you. It does increase your flexibility, he said, but there’s still plenty of work on the farm.

“It doesn’t mean the work is less. ... Eventually you have to get out with your cows and know your cows,” he said.

The couple have also invested in renewable energy. In 2015 they joined the Chestertown Solar Cooperative and installed solar panels on two barns to reduce utility costs and produce green energy.

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