Dairyman Shares Robotic Milking Adventures

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Lancaster Farming Staff

GRANTVILLE (Dauphin Co.) — When Pete Knigge decided to put in a new dairy setup with two robotic milkers on his Wisconsin farm, the master plan was to keep the farm viable well into the future. Knigge and his son had just formed a partnership.

At a Professional Dairy Managers of Pennsylvania (PDMP) conference here in March, Knigge shared what he called his "adventures over the last two and a half years with robotic milkers."

The Knigges first began milking 65 cows with one robot in August of 2000, with a plan to expand to 130 cows on two units.

Knigge was first inspired to look into this leading edge of technology after taking a trip to the Netherlands with the Wisconsin Department of Trade and Consumer Protection. A main focus of the tour was to familiarize himself with what was happening in the area of manure research and regulations in that European country. One of the farms he visited was using a robotic milker.

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>
> **Pete Knigge**
> robotic milker operator

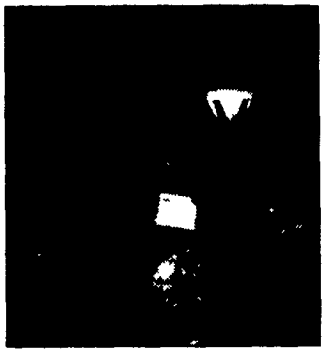
When Knigge returned to Wisconsin, he started talking to a robotic milker company about how it could work on his farm. He took a tour of Canadian dairies using robots and began to work on a business plan with the University of Wisconsin.

When it was time to go to the bank for funding, he received "the whole gamut of responses," Knigge said. The plan was called too high of a risk by some, while at least one creditor was ready to approve the robots without even requiring a business plan

Construction of the four-row freestall barn and robotic milker setup was "relatively pain-free," he said. It was after the Knigges began milking cows in it that the real fun began.

"We expected the cows to learn a lot," Knigge said. "We learned a lot and some days the cows learned more than we did."

Early challenges included keeping the cow traffic flowing smoothly in and out of the robot, learning how to manage the freestalls, balancing feed rations (since the cows get a portion of their feed while being milked), and udder/teat shapes that the robot had trouble detecting properly.



Pete Knigge has been using robotic milkers on his Wisconsin dairy for about three years.

In the process of adapting to the robot, the herd dropped from an average of 23,000 pounds of milk to 20,500 pounds, with a slight increase in somatic cell counts.

Milk quality is still a major challenge, Knigge said, although he noted that other quality issues — such as water in the milk — have been eliminated by the fully automated system.

One-way gates are essential to train cows to move in and out of the robot (ideally at least three times a day.) But Knigge said he and his son let the one-way gates in far too long, which hindered the free flow of cow traffic after the cows had already learned the system.

If he had it to over do again, Knigge said he would have removed the one-way gates much sooner. He also said a six-row barn would have been a better choice than the four-row, because it's less expensive and allows the cows to be closer to the robot.

Herd health is monitored monthly in headlocks in the freestall barn. Stalls are bedded twice weekly and scraped often.

Sand is not the ideal bedding to use in a robotic milker setup, Knigge noted. The material can be abrasive to the equipment.

"Sand and robots probably don't get along too well," he said.

Ongoing goals for the operation include increasing milk production and quality.

At this pont, Knigge said he is relatively pleased with the iodine (teat dip) coverage applied by the robot, thanks to a computer software update.

Other observations offered by Knigge:

- Ration management is extremely important.
- Hot weather decreases cow traffic flow.
- Regular foot care/ foot baths are important.

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