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Practical protocols

To minimize and eliminate diseases while expanding, Wilwerding Dairy follows biosecurity plan

By Paula Mohr

Amid the chaos of ongoing dairy expansion, the last thing you want added to your "to do" list is another project.

Yet, that's what Wilwerding Dairy, Freeport, Minn., did. As father Glen and sons Jim, Jerry, Joe and John continue to expand their herd, they've gradually written and implemented biosecurity measures. With assistance from Jim's wife, Sarah Overby, who also is the dairy's veterinarian and employed with Melrose Veterinary Associates, the producers have developed protocols for freshening cows, Johne's control, cow vaccinations, and milking, feeding and animal husbandry chores.

"Biosecurity here is not perfect, but we've tried to concentrate on areas that are practical and protect the health of cows and the quality of the food product we produce," Overby says. After the next batch of 100 heifers freshen this summer, they'll be milking 850 cows.

The Wilwerdings first sat down to discuss biosecurity issues when they expanded from 120 to 350 cows five years ago. Committing to paper an adult-cow vaccination program seemed like a practical place to start.

"We wanted to improve the health status of the herd and prevent disease as we expanded to 350," Overby says.

They give vaccinations at five stages throughout a cow's lactation. At dryoff, cows receive coliform (J-5 core antigen) and calf scours (ScourGuard 3(K)C) vaccines and dry-cow treatment (Quartermaster). They dip teats with a barrier teat dip (Stronghold). In the transition pen about three to four weeks before calving, cows receive J-5 and ScourGuard again, plus a vitamin E and selenium shot. At calving, they get their third J-5 shot. One month after calving, they get a modified live nine-way vaccine (BoviShield 4+L5). And when cows are confirmed pregnant, they get a five-way leptospirosis vaccine.

In 1996, the Wilwerdings kicked off their milk-quality protocol by culturing the entire herd. "Once we had those results, we segregated cows with contagious mastitis or those we elected to separate as noncurable mastitis cows," Overby says. These cattle are milked last in the double-nine herringbone parlor so they don't contaminate clean cows.

"This helps us protect milk quality and helps our milkers during milking. They don't have to write down each cow from the mastitis pen everyday unless she's got a hot quarter and she's sick," Overby says. They employ 11 full-time and four part-time workers.

"We do have *Staph. aureus.* We don't want it to snowball and get out of hand," she adds "Our goal is to eventually work it out of the herd." *Staph.* cows sport a green ear tag.

The Wilwerdings continue to refine the milk-quality protocol as they see the need. They started culturing individual fresh cows and bulk tank milk on a monthly basis. Testing the fresh cows is particularly important as new heifers continue to come on line. "We don't have *Strep. ag.* and we don't want it," Overby says.

Culturing milk initially paid off for the dairy. Over a two-year period, the Wilwerdings saw their herd somatic cell count drop from 400,000 to 450,000 cells/ml to 200,000 and below. Unfortunately, some heifers freshened earlier this year with contagious pathogens and boosted the SCC back up.

"With expansion, you always get animals that don't turn out," Overby says. "What's important, however, is that we're ahead of the game as we add new animals. Initially, we put in the protocols to achieve high-quality milk. Now, we'll work to get it back again."

All cows are milked 3X/day. Herd production averages 23,900 lb. milk.

To minimize herd health problems with purchased animals, the Wilwerdings quarantine heifers for several weeks at Joe's farm a half-mile down the road. Ideally, they try to buy heifers close to 60 days precalving so they can get them on their vaccination schedule and acclimate them to the dairy's feedstuffs.

Fresh cows and calves get off to a good start with the farm's fresh-cow protocol. It's posted next to the maternity pen for easy reference. The birthing process is recorded so management knows the length of calving and if calving was easy or difficult. Following a normal calving, the cow (not Johne's positive) is prompted to stand and bond with her calf. She's given 20 gal. of warm water and, within the first hour, milked for her colostrum.

Calves get their navels dipped and receive a gallon of their dams' colostrum. They also are immediately tagged and placed in an 8′x8′ incubator room that's heated with a propane heater.

"We don't let calves get chilled. Even if it's warm, like 50°, we put calves in there," says Joe, youngstock manager. "The first 45 minutes of care last forever. They dictate the potential of a calf's life."

Employees are required to feel the cow's ears. If they are cold, the cow receives a bottle of oral calcium and stays

PHOTOS BY THE AUTHOR

VETERINARIAN SARAH OVERBY, wife of Jim Wilwerding, helped family members write procedures for various dairy chores to ensure animal and food safety.

in the maternity pen for six hours for observation. After she returns to the milking string, the pen gets cleaned and the floor limed. All cow and calf care is documented on a calving board.

A biosecurity plan for an expanding dairy wouldn't be complete without some sort of Johne's-control program. The Wilwerdings implemented one in 1998, mainly because the state of Minnesota offers financial assistance to test and voluntarily control Johne's. As it turns out, there is a low prevalence of Johne's in the herd. Overby thinks the farm's first expansion brought some infected cattle onto the farm, as they recall seeing animals with Johne's disease symptoms.

The state program pays for the first 30 ELISA tests to be used on cows in their second or higher lactation. After 30 tests, the state pays one-half of the test cost. After July 1, however, the state will pay for the first 50 tests. Other expenses are paid by the producer.

All Johne's-positive cows are identified with a red ear tag on Wilwerdings' dairy. "We elected to identify Johne's cows rather than cull them. It's cheaper," Overby says. "We'll use biosecurity measures to help control it."

They plan to control and eventually eliminate Johne's by calving cows in clean, separate pens, removing calves immediately from dams so they can't suckle or ingest contaminated manure, discarding colostrum from infected cows, feeding calves milk replacer, raising calves separately from adult cows until breeding age, testing cows annually and culling positives, and preventing manure from contaminating feed.

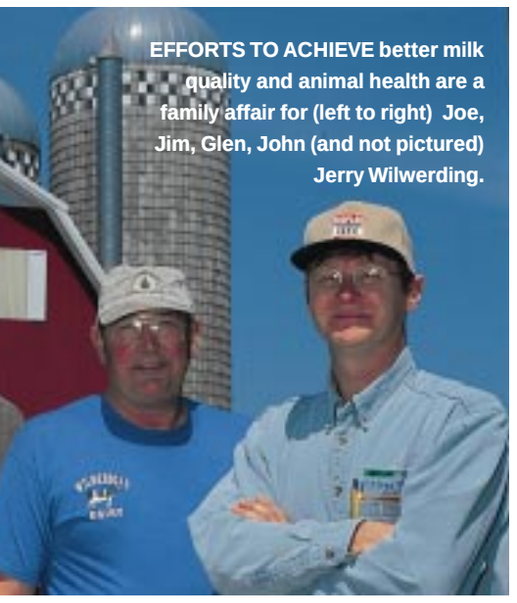
Eventually, they would like to purchase replacements from Johne's test-negative herds. However, those herds are very hard to find.

"To expand, we have to take from the general population and know we'll probably get Johne's," Overby says.

The last time they drew blood samples for Johne's testing, Overby says they also screened for bovine leukosis, a contagious type of bovine cancer spread with the transfer of whole blood.

They found 30% of the herd positive and now identify those cows with blue ear tags. They don't have a control program in place for this. It would be cost-prohibitive to segregate the cows or to use separate needles for every cow, Overby says.

"This test was more of an FYI to see where we were at," she adds. "It will impact our culling in the future."



EFFORTS TO ACHIEVE better milk quality and animal health are a family affair for (left to right) Joe, Jim, Glen, John (and not pictured) Jerry Wilwerding.

ALONG WITH YELLOW ID numbers, Wilwerding cows may wear a green ear tag if they have *Staph. aureus*, a red tag if they have Johne's, or a blue tag if they have bovine leukosis.

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