Time for Technology

Herd Navigator In-line Milk Testing

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Over the last thirty years, technology has had a major impact on how we dairy farm. Through the adoption of loose housing and freestall systems, we have been able to replace the shovel with a skid loader, and the feed cart with a TMR mixer. The four bucket milkers that used to be “all one man could manage...and still do it right”, have been replaced by twenty four milker claws in a rapid exit parlor. While this has been a boon for labour efficiency, the mechanization that has taken place has brought along some challenges with respect to individual cow care. The farmer with four bucket milkers had his hand on the hip of every cow twice a day, as he used her for support to get upright with minimal stress on his back and knees. While most of us that have milked this way, don’t miss that feeling, we were likely more aware of changes in Bessy’s health and condition when we had that close physical contact. We also saw the colour and consistency of her manure as we stepped over the gutter with that bucket of milk, and we saw what she did or didn’t eat when we swept the manger in front of her. Last but not least, awareness of individual cows was also easier back then because there were probably only 30 or 40 Bessies in the barn.

So in some ways, the technologies that have made it possible to milk 100 cows per hour and feed 400 cows per hour, have also robbed us of the opportunity to manage them individually. But new technologies are now providing new opportunities to “watch” our cows using automation. Perhaps it is easiest to illustrate this potential with a very practical system that is being field tested in European dairy herds right now. The “Herd Navigator” in line milk testing system is the result of the combined effort of three Scandanavian companies, DeLaval, Foss and Dansk Kvaeg, and it provides some very powerful information. In parlors up to double 12, the system automatically samples selected cows at each milking and analysis the milk sample for progesterone, LDH (Lactate Dehydrogenase), BHB (Beta-hydroxybuterate) and/or MUN (milk urea nitrogen). Test results are summarized and reported through the herd management software, which also defines and applies the testing schedule to provide the best possible information.

MUN, which is already available as a lab test through DHI is a valuable indicator of how Bessy is using the protein in her ration. Too low and she needs more, too high and she is either fed to excess or she is using it inefficiently as an energy source. BHB is a ketone that provides a very

good indicator of how well the liver is coping with the demand for energy in early lactation. High milk levels of BHB will identify cows with clinical and subclinical ketosis. When BHB is too high, treatment for ketosis is warranted and when the majority of early lactation cows are borderline or high, feeding management changes to increase feed intake in fresh cows or increase energy level in the ration are required. Research studies using LDH suggest it is the best early indicator of clinical mastitis we have. European farmers that are field testing Herd Navigator say it is identifying cows that need attention 3 or 4 days sooner than they would find them with traditional observation and management. So what's the value of finding and treating a new clinical mastitis case a day earlier, and what can we gain by treating a subclinical ketosis cow differently? We really won't know until we have much more experience with these tools, but I am willing to bet that the potential is quite substantial.

But the most obvious benefit for Herd Navigator will be in managing reproduction. In line progesterone testing on demand, is an absolute dream come true in terms of improving reproductive monitoring. In the cow's reproductive cycle, progesterone in blood and in milk is low when a cow is not cycling, and when she is in heat. It is high between heats, when she has a luteal cyst and when she is pregnant. Except for luteal cysts and pregnancies, repeated tests can differentiate between all of these conditions. Kits for cow side progesterone testing have been available for more than 20 years, but when you add up the work of scheduling the sampling, identifying the cow at milking, taking the milk sample, performing the test, recording the results and interpreting them, the effort required is more than the results are worth. Herd Navigator, does all of the above work for you. When it is linked to existing parlor automation like sort gates, the cow to be bred will be waiting for you in the sort pen after milking. With accurate information on the status of most cows, pregnancy rates will be higher and veterinary herd health visits will take less than half as long.

In the final analysis, the cost of the system, the benefits in terms of improved pregnancy rates, better health and higher production, the savings in vet bills and the reduction in time needed for management and observation by the herdsman, will determine when and where this technology will be used. For the freestall operator, struggling to stay in touch a growing herd, Herd Navigator offers a new opportunity to "watch cows" and give them individual attention with a minimum of effort. For the tiestall operator who is still stepping over that gutter a hundred times per day, it is a signal that in future, there may be more efficient ways to offer the individual attention and care he values so highly.