VALACTA – Dairy Production Centre of Expertise

Switching to robotic milking: Our producers are up to the challenge

Gervais Bisson, *agronomist,*
Dairy Production Expert - Milking Robots

Julie Baillargeon, *agronomist,*
Technology Transfer and Research Project Coordinator

A move to robotic milking is a major undertaking and is probably one of the most important projects in a dairy producer's life. In most cases (60 per cent), the robotic milking project will also involve the construction of a new barn. And if the old tie-stall system is being replaced by a new free-stall setup at the same time, the challenges are even greater.

In 2015, 88 per cent of Quebec's dairy farms housed their cows in tie stalls (Figure 1). Comparatively, 46 per cent of farms in the Atlantic Provinces used a tie-stall system. Ontario more closely resembles Quebec, with 67 per cent of farms equipped with tie stalls. As for the western provinces, the trend is actually reversed, with only 11 per cent of farms using a tie-stall system.

In Europe, only 38 per cent of farms (2010) house their cows in tie stalls, and in France that number drops below 10 per cent. In the United States, while 39 per cent of farms use tie stalls, only 13 per cent of dairy cows are housed on those farms.

In Quebec, it seems that most farms that adopt robotic milking also switch from tie stalls to free stalls. This certainly makes the project even more challenging.

A challenge for the cows as well

Adapting to living in a free-stall system is a big adjustment for a cow that has always lived in a tie stall, even more demanding than learning to go to the milking robot, which is no small feat either. So having to deal simultaneously with both these changes is quite the challenge for a cow.

In a tie-stall system, food and water are always easily accessible. However, in a free-stall setup, the cow will have to walk a lot more in order to find out where the forage and grain rations are, where the water bowl is, and where she needs to go to get milked or lie down to rest. Moreover, she will now have to walk to meet those needs. While exercise is certainly good for the cow, a sudden transfer to a free-stall system will be physically demanding for her.

A belligerent bunch

Cows are naturally gregarious animals, re-establishing their social hierarchy every time there is a change in the group. For those housed in tie stalls, the hierarchy is limited to their stall neighbours. However, when the cows are first transferred to free stalls, they often behave aggressively, engaging in vicious head butting, to establish their ranking within the tribe. Therefore, once the animals are installed in the new facility, it is important to ensure that the dominant cows in the group have access to the feed bunk and resting areas.

Conquering new territory

Cows like to explore their new environment, and the more space they have, the more they will be inclined to move about. You'll have never seen claws wear out so fast! After the move, it is a good idea to confine cows to a smaller area initially, and then gradually increase the available space. For more information on preventing hoof problems at start-up, read our article published in the April 2016 edition of the Advocate.

Some cows may initially exhibit perplexing behaviour:

Lying in the alley: Not knowing where to go or how to use their new stalls, some cows simply lie down in the alley, particularly if it is covered with rubber flooring. You may need to show your cows around and provide them with a guided tour of their new surroundings.

Difficulty exiting the stall: Cows accustomed to tie stalls may have trouble backing up and initially take more time to exit their stalls. Some will try to turn around first. Give them some time; they generally catch on quite quickly.

Standing: Cows may spend more time standing than usual during the first few days, and may even remain standing in their stalls awhile before deciding to lie down. Give them a few days to establish their new routine.

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All is well when the cows are eating!

In the days following their arrival to the new barn, the cows will not be readily drawn to the feed alley. They will need time to get accustomed to their new feeding routine. Headlocks at the feed bunk may make them uneasy and curb their appetite for a time. One thing is certain however: the cows will eventually find the feed.

An initial drop in dry matter intake is thus to be expected, and this will in turn result in a temporary decrease in production. The rule of thumb is as follows: 1 kg of dry matter = 2 kg of milk. If all goes well, production will drop slightly during the first week in the new barn but return to normal once the cows have regained their appetite.

Keys to a happy ending

The challenges of the shift to robotic milking are certainly greater when combined with a move from tie stalls to free stalls, but proper preparation will ease the transition.

Visit other producers who have already made the switch, and feel free to ask them questions to help avoid some of the pitfalls. You can also talk to our robotic milking specialists; they can support you at every step of the process, from planning to start-up.

Make sure you have the time and the resources needed to properly prepare your robotic milking project and give your story a happy ending!

FIGURE 1. NUMBER OF CANADIAN FARMS ON MILK RECORDING (VALACTA AND CANWEST DHI) BY MILKING SYSTEM (2015)