

Producer experience with transitioning to automatic milking: Cow training, challenges, and effect on quality of life

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Why is this important?

Around the world, adoption of automatic milking systems (AMS) has had a positive impact on producers' lives (and their cows!). AMS have the potential to provide many benefits, including improved cow health, easier health detection, increased milk production, needing less labour, and providing a more flexible lifestyle for producers. That said, a very important transition period must take place in order to realize these benefits.

Training is an important aspect of transitioning to AMS. This is a period of time during which cows are exposed to the sounds and mechanical movements of the AMS before first milking. Introducing heifers to the AMS before calving has been shown to have a positive effect on milk production after calving. There are many different cow training "programs", which vary in method, duration, and specifics. Further, during the transition to AMS, producers experience many changes (e.g. changes to the barn/housing/feeding systems, differing cow health management). There is limited information on how producers experience the transition and how AMS has affected the quality of Canadian dairy producers' lives.

The objective of this study was to determine how Canadian dairy producers experienced the transition to, and use of, AMS, focusing on experiences with cow training, challenges during transition, and the effect on quality of life.

What did we do?

This study used a survey that was distributed to participating AMS farms in BC, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia. Participating farms were surveyed by telephone, email, and in person from May 2014 to the end of June 2015.

The survey was developed to obtain information on factors that may have been affected by transitioning to AMS (changes to the facility, employee management, milk production and quality, milking labour management, current milking statistics (average number of milkings per day), cow training, challenges and solutions experienced during transition, changes in quality of life, level of satisfaction with their AMS, and cow health- and milk-recording programs. Some results are reported in a separate DRECA Knowledge Summary.

There were 217 respondents to the general survey and 69 respondents completed the follow-up questions.



What did we find?

Despite recommendations, only 42% of producers trained heifers, cows, or both before first milking with the robot. The remaining producers fetched cows to bring them to the robot and allowed milking to occur during the cows' first experience with the robot. Eighteen percent of AMS farms trained cows before calving. Producers often provided feed in the AMS during training, but were less likely to have the robot arm spray teats with disinfectant as part of training. Almost all producers (99%) supervised a cows' first milking with AMS.

For producers who used a training program, it took approximately 7 days to train a cow or heifer. It was estimated that it took approximately 30 days on average to transition an entire lactating herd, regardless of whether training took place. The average proportion of a herd culled for not adapting to the AMS was 2%, with a range of 0 to 40%.

The main challenges producers experienced during transition included:

- Learning to use the AMS (complicated, data)
- Cow training (difficulty with heifers/older cows)
- Nutrition (balancing feed and feed costs)
- Trusting the AMS / changing mindset (accepting a different style of management and routines)
- Extremely demanding first few days/weeks
- Having to change health management to deal with feet/leg, heat detection, reproduction and mastitis issues.

The solution to these issues included increased time, patience, being proactive, and being willing to ask for help from others.

Overall, producers indicated a high level of satisfaction with the decision to switch to AMS and the transition period. Quality of life since transitioning to AMS improved through an increase in flexibility of time, less stressful and physically demanding work, easier employee management, and improved herd health and better herd management.

Most producers (86%) would recommend transitioning to AMS to other producers. Only 1% would not recommend AMS and 13% stated that the recommendation would depend on whom they were speaking to, as some producers are less tech-savvy, and this could pose an issue.

What does it mean?

Interestingly, less than half of producers trained cows or heifers to use the AMS before the animal's first milking with the robot. Although a training program is recommended by AMS manufacturers, this study found that training prior to use of AMS did not make a difference in time to transition an entire herd, which took approximately a month. There was a slight uptick in culled cows upon adoption of AMS due to close teat placements, unusual udder conformation (causing issues with robot attachment), and identification of "lazy" cows that need to be fetched frequently.

Overall, producers experienced a positive transition to AMS and would recommend AMS to other dairy producers. Despite some challenges (e.g. being on-call, amount of information/data, having less contact with cows), producers perceived that AMS improved profitability, quality of their life and their cows' lives, and met their expectations.

Of note, this study found that experiences and opinions of other AMS producers were important to producers considering transition to AMS. It may be beneficial to implement international, online, producer-based forums to aid in knowledge flow between farmers.

Summary Points

- Producers experienced a positive transition to AMS, noting that they gained more time flexibility, found work less stressful and physically demanding, managed employees more easily, and improved quality of both their and their cows' lives.
- The majority of producers would recommend this technology to other producers.