

Transitioning from conventional to automatic milking

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Summary

- Transition to automatic milking systems (AMS) requires careful consideration and planning.
- Additional training of farmers/farm staff is required to transition to AMS.
- The majority of farmers that have transitioned to AMS recommend others to do so.

Introduction

An AMS can milk cows without need for a human worker to be present. Cows choose when to be milked and detailed data about each milking is recorded by the AMS, which can be accessed remotely by computer or on a mobile device by the farmer. The role of the stockperson is still critical to the farming operation to ensure excellent cow performance, health and welfare. It is frequently claimed that an AMS improves the working conditions and lifestyle of the dairy farmer, reduces the cost of milking labour, and is beneficial for cow health and welfare. It is important to note, however, that ownership and management of an AMS may not suit everybody, and there is a large investment associated with installing an AMS.

Once the decision is made that an AMS is an option, the first step is to visit and talk to other AMS farmers to understand how they adapted their farming systems and how the AMS changed their work routines and lifestyles. A clear understanding of the changes in daily farm management routine is important, including pasture management, feed allocation, cow traffic and training of heifers. The experience of existing AMS farmers is extremely valuable, as they can provide knowledge and practical advice on daily routines and key performance indicators. The second step is to contact commercial companies for technical information and costs. All of the commercially available AMS's will milk cows, but other factors may have a large influence on the best AMS to invest in (e.g., service reputation, technical support, trust). The third step is to develop a detailed financial assessment and business plan to establish if an AMS is a viable option economically for that specific farm.

Key elements of success

- Proper planning that will result in good farm layout.
- AMS can operate automatically, but it is necessary to monitor its operation at least twice a day, on site or by remote link (on site at least once, and possibly twice for grass allocation).
- Initially, focus on cows being comfortable and at ease, not 'how many milkings a day' or 'higher production per cow'.
- Quiet, calm cows are required for faster cluster attachment
- It is important to have someone else learn to operate the AMS with the farmer; time away can then be rotated (essential if the owner works off-farm).

A UK study (2012) examined how AMS changes human-animal relationships, and how this affects agricultural practices and knowledge. Some of the key reasons identified for changing to AMS were lifestyle, flexibility, labour (cost and availability), attractiveness to younger generations and increased productivity. Some interviewees said the AMS did not lessen the workload, but the workload was different and not time specific. Others saw the AMS as a means of prolonging their working life. For young dairy farmers, the opportunity offered by the AMS to allow off-farm work was important. Installing an AMS is not a cheap alternative to a conventional milking system, but it can be economically viable when budgeted correctly.

Farmers who have adopted AMS need to assign some of the extra time available to grass allocation and management. They should also embrace changes to farm management systems associated with the technology; otherwise, they will not experience the time saving advantages of the AMS. Many of the interviewees in the UK study who used AMS indicated they only made use of a very small amount of the data available. More training for farmers on the appropriate use of data generated by the AMS is required, as well as exploring new ways to analyse and use the data on an on-going basis.

A Canadian study (2018) reported the experiences of dairy producers (n = 217) following transition to AMS technology. Producers perceived that AMS improved profitability, quality of their lives and their cows' lives. Importantly, they reported that the AMS had met their expectations, despite experiencing some challenges during the transition such as learning to use the technology and data, cow training, and a demanding period for the first few days. The vast majority (86%) of the producers would recommend others to transition to AMS. They also advised the following approach:

- Changes can be made to improve AMS performance (e.g. change time of the gates, etc.). One should not be too proud to change things, or manage something differently.
- Operating parameters should not be changed very frequently — let conditions settle, evaluate and then change if necessary.
- Many of the problems are perceived by the farmer. Do not over-react to different situations and be flexible.
- The possibility of sharing staff between AMS farmers should be considered.

Conclusions

Transitioning from a conventional to an automatic milking system can have a very positive impact on the farm family lifestyle and different aspects of the farm system. However, the change has to be chosen carefully, with sufficient preparation in relation to yard layout, animal and data management, finance and general suitability.

