

# Impacts of Automatic Milking Systems on Canadian Producers' Perceptions of Dairy Cow Productivity, Health and Welfare

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The purpose of this national survey study was to document the overall effects of transitioning to AMS on producers' perceptions of milk yield, milk quality, cow health, and quality of producers' lives. A total of 217 AMS producers were surveyed in 9 provinces by telephone and email. Farms had an average ( $\pm$  S.D.) of  $51 \pm 9$  cows/robot and a median (min – max) of 2 robots/farm (1 – 13 robots/farm). Median milk yield was 33.0 kg/cow/d (22.5 – 40.5 kg/cow/d) and was perceived to have increased for 82% of producers. There was little change in milk quality. Median percentage milk fat was 4.0% (3.0 – 5.2%) and milk protein was 3.3% (3.0 – 4.1%), and both were perceived to have stayed the same for 56% and 79% of producers, respectively. Producers perceived improvements, deteriorations and no change in bulk tank SCC. Median bulk tank SCC was 180,000 cells/mL (43 – 375 x1000 cells/mL). Changes in health management practices were necessary for 66% of producers, with AMS making health detection easier for 80% of producers. AMS has had some positive impact on perceptions of cow health. Conception rate was perceived to have increased for 63% of producers, while perceived changes in lameness, clinical mastitis, and bacterial count differed greatly between producers. Farmers stated that they were more able to detect lame cows with AMS as a result of having more time to observe cows and as a result of automatic detection. Most producers had not culled more cows with mastitis or lameness since adopting AMS. Producers report improved quality of life as a result of increased time flexibility, less stress, work being less physically demanding, easier employee management, and improved herd health and management. Overall, producers agreed that adoption of AMS had improved their profitability, the quality of their lives and their cows' lives; and has met expectations. Most of the surveyed producers (86%) would recommend transitioning to AMS to other producers.

Transitioning to AMS is perceived by producers to have a positive impact on milk yield and little effect on milk quality and cow health. This technology has improved quality of producers' lives and will likely increase in the future.