

A Survey of Management Practices and Producers' Perceptions Regarding Manual and Computer-controlled Milk Feeding Systems for Dairy Calves

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Dairy calves are commonly housed individually and use manual milk feeding methods (MMF) such as open buckets or teats. Automated milk feeders (AMF) allow for more natural milk feeding frequency and volume, with calves usually housed in groups. A national on-line survey was developed to determine management practices for the care of milk-fed calves in Canada, and to determine what factors have influenced producers to continue using MMF methods or to switch to AMF. A total of 670 responses were received (5.7% of all dairy farms in Canada). Of respondents, 16% used AMF and 84% used MMF. Farms using AMF had a larger ($P<0.001$) median herd size (110 vs. 60 cows). Seventy percent of farms using AMF had free-stalls compared to only 48% for those using MMF. Interestingly, 30% of AMF farms also had robotic milking systems compared to 8% for MMF farms. Automated milk-fed calves were typically housed in groups of 10 to 15, while nearly 75% of the farms with MMF housed calves individually. Although both AMF and MMF farms fed similar amounts of milk during week 1 (a median of 6 L/d), the cumulative litres given in the first 4 weeks differed significantly ($P<0.001$) with a median of 231 vs. 182 L, respectively. Milk allowance for AMF also peaked significantly higher (10 vs. 8 L/d) than for MMF. The 4 most important factors that motivated producers to switch to automation were to: raise better calves, offer more milk to calves, reduce labour, and improve working conditions. For MMF farms, the investment in equipment and group housing facilities, and farm size were the main reasons for maintaining manual feeding methods. Benchmarking offers us important insights into calf rearing practices across Canada, resulting in an improved understanding of producers' needs and leading to the development of strategies and best management practices to optimize calf welfare and performance. It also shows how recent calf research findings have been adopted, and assist in determining focus of future research and technology transfer outreach.