Do you need to feed a pellet in an automated milking system?

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Feeding a pellet in an automated milking system (AMS) is considered to be essential to motivate cows to enter the AMS. Use of a pellet does not allow for the use of on-farm feeds. The objective of this study was to evaluate the effects of feeding pelleted barley (PB) when compared to steam-rolled barely (SRB) in an AMS on dry matter intake, AMS visits, milk and milk component yield, and feeding behaviour. A total of 33 Holstein cows were in this study. Eight of the cows were housed in a separate free-stall pen with Insentec feed bunks to allow for individual measurement of partial mixed ration (PMR) intake while still utilizing the same AMS. Both the Insentec and main AMS group were in a feed-first guided-flow barn arrangement. The study was conducted as a cross-over design with cows receiving the same PMR and 2 kg (DM basis) of either PB or SRB in the AMS over each of the 21-d periods (15 d for dietary adaptation and 6 d for data and sample collection). The study was conducted in a guided-traffic flow barn.

Cows receiving SRB in the AMS tended to have less voluntary AMS visits (2.83 vs. 2.99, $P = 0.067$), tended to have longer inter-milking interval (543 min/milking vs. 488 min, $P = 0.099$), spent more time in the commitment pen (85.91 min/d vs. 145.37 min/d, $P = 0.006$) and had less total AMS time (19.88 min/d vs. 21.49 min/d, $P = 0.009$). Despite changes in AMS attendance, PMR intake (average = 27.1 kg/d; $P = 0.38$) and AMS intake did not differ (average = 2.01 kg/d; $P = 0.50$). Likewise, the number of PMR meals, eating time, and eating rate did not differ among treatments ($P > 0.30$). Milk yield (average = 44.9 kg/d; $P = 0.90$) and the yields of fat (average = 1.63 kg/d; $P = 0.65$) and protein (average = 1.49 kg/d; $P = 0.65$) did not differ between treatments.

Implications: The results of this study are interpreted to suggest that use of steam-rolled barley rather than pelleted barley in the AMS decreases motivation for cows to enter the AMS. These findings could suggest that the use of home-grown feeds in the AMS rather than a pelleted feed may compromise performance.