Automated feeders, when properly managed, can increase heifer growth more than manual feeding.

Manual vs. automated

Automated milk feeding systems grow bigger heifers but cost more

By Fernando Diaz

Automated milk feeding systems are becoming more popular on North American dairy farms. Canadian researchers (Medrano-Galarza et al., 2017) compared feeding management practices between dairy farms using manual (buckets or bottles) and automated milk feeding systems. The study included 670 Canadian dairies (16% automated and 84% manual) that ranged in size from 17 to 2,800 cows (average: 90 cows). The results, published in the Journal of Dairy Science, showed:

> Milk replacer was the main type of milk used among automated farms (89%), whereas only 40% of farms using manual feeding fed milk replacer.

> The volume of milk fed during their first four weeks of life was greater in farms with automated feeders (median: 520 lb. versus 410 lb.).

> There were no differences between systems in the proportion of farms allowing calves to access starter grain (97%), hay (67%), total-mixed-rations (TMR; 8%) or water (91%).

> However, the proportion of farms allowing ad libitum access to starter, hay and water was higher among automated farms (86%, 93% and 99%) compared with manual systems (70%, 66% and 81%).

> Calves fed with automated feeders accessed starter (median: three and a half days versus seven), hay (seven days versus 15), TMR (15 days versus 47) and water (one day versus seven) sooner than manual fed calves.

> The weaning process was sooner (median: seven weeks versus eight) and more gradually (13 days versus seven) in automated than manual fed calves.

When the producers were asked about the reasons to switch to automated systems, the four most frequent factors were: to raise better calves, offer more milk to calves, reduce labor and improve working conditions. Similar responses were found among dairy producers using automated feeders in the upper Midwest (Endres, 2016). To spend less time on menial tasks, improve calf growth rate, gather information on calf feeding, perform natural diet changes and improve labor conditions were the top reasons for purchasing automated systems. Interestingly, reducing the cost of raising calves was not considered a top priority in any of the studies.

WHICH IS MORE EFFICIENT?

Using the computer model Intuitive Cost of Production Analysis, University of Wisconsin Extension specialists evaluated the cost of raising dairy replacements in 26 dairies (24 from Wisconsin and two from Minnesota) using either individual manual feeding (n=11) or group feeding with an automated system (n=15). In this study, automated fed calves received on average 54 lb. more of milk replacer (134 lb. versus 80 lb.) or 66 lb. more of whole milk (921 lb. versus 855 lb.) than manual fed calves fed from birth to weaning. Although labor and management costs were $68.7 per calf lower in automated systems ($103.74 versus $172.45 per calf), the average total costs were $38 per calf lower for manual ($363.7) than for automated fed calves ($401.7). Greater liquid feeding rates coupled with higher housing and equipment costs were the main drivers for the higher costs found in the automated system.

Photo: Mike Opperman