

Texas Dairy Matters

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BUNK SPACE FOR LIMIT FED HEIFERS

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Drought and tight forage supplies have forced dairy producers and their consultants to explore alternative feed management practices including limit feeding of heifers. Various researchers have shown that limit feeding can be quite beneficial. Some of the benefits include increased feed efficiency, reduced feed costs and decreased fecal excretion. In addition, limiting feeding can be a tool in controlling average daily gain (ADG).

As with any new management practice some pitfalls exist as well. Some researchers have reported a reduction in feeding and lying time. In addition, limit feeding results in “unrewarded” time at the bunk because no feed is available. Other behavioral changes include more vocalization and an increase in the amount of time standing around. Finally, feeding high energy diets once daily increases the risk for low rumen pH.



Table: Intake and behavior measures of limit fed heifers at different frequencies and with different bunk space.

Item	1X		2X	
	16 in/heifer	9.5 in/heifer	16 in/heifer	9.5 in/heifer
DMI (kg(lb)/d)	5.5 (12.1)	5.5 (12.1)	5.5 (12.1)	5.5 (12.1)
ADG (kg(lb)/d)	1.0 (2.2)	0.9 (2.0)	1.0 (2.2)	0.8 (1.8)
Feed efficiency (DMI/ADG)	5.7	5.9	5.5	6.8
Feeding time (min/d)	72.5	68.4	58.3	59.4
Unrewarded time (min/d)	25.5	29.0	31.5	29.7
Displacements (no./d)	4.8	4.8	2.1	2.6
Lying time (min/d)	832.3	529	822.1	845.2
Standing without eating (min/d)	535.3	529.0	559.4	535.5

Recently researchers at the University of Guelph evaluated how feed bunk space and frequency of feed delivery impacted feeding behavior and growth when heifers were fed a limited amount of feed. At the beginning of the trial, six-month old Holstein heifers were used to evaluate how bunk space and frequency of feeding impacted ADG, time at bunk without feed and competitive behavior.

Feed was delivered either once per day at noon (1X/d) or twice per day at noon and 2 p.m. (2X/d). The bunk space allotted was either 16 inches or 9.5 inches/heifer. Using time-lapsed video feeding time, unrewarded time, lying time, dry matter intake (DMI) and ADG were evaluated. Results are shown in the Table. No impacts on lying or standing behavior occurred.

Based on these results, if you limit feed heifers, provide adequate bunk space to allow all heifers to access feed simultaneously, which improves feed efficiency and ADG. The cost for delivering feed declines as well. Feeding just once per day increased competition; however heifers spent more time eating and had similar gains.

Reference

Greter, A.M., R. S. Westerveld, T.F. Duffield, B.W. McBride, T.M. Widowski, and T.J. DeVries. 2013. Short Communication: Effects of frequency of feed delivery and bunk space on the feeding behavior of limit-fed dairy heifers. *J. Dairy Sci.* 96:1-8.