

Evening Feeding of Beef Cattle in Winter and its affect on Calving and Feed Efficiency

Calving

Evening feeding of the mature beef cow has been proven to increase the percent of cows that calf during daylight hours compared to night time hours. A Manitoba producer made this observation when he fed his cows twice daily; 11 a.m.-12 p.m and 9-10. This feeding regime resulted in 80% of his calves born between the time of 7 a.m. and 7 p.m. Likewise, 62% of the calves were born between 7 p.m. and 7 a.m. if fed 8-9 a.m. and 3-4 p.m. Montana State University scientists conducted similar research for a period of two years. Their results showed that feeding in the evening moved 15% of their heifers calving between midnight and 6 am to calving during daylight hours.

Montana State University has determined that the cow's body temperature drops about 2°F around 16 hours before a calf is born. Furthermore, body temperature increases about 1°F after eating for a period of 2-3 hours. The rise in body temperature may be antagonistic to the drop of body temperature prior to calving and thus may delay the onset of calving.

Feed Efficiency

Evening Feeding as it relates to weight gains in feedlot cattle and feed efficiency has also been studied by Alma Kennedy of the University of Manitoba, Lethbridge and Brandon. In her region of study, January temperature is below 32°F. At these temperatures, cattle undergo acclimatization to the weather, generally by increasing resting metabolic rate to maintain body temperature. Thus, feed energy available for growth is decreased. Kennedy hypothesizes that nightly dips in body temperature during cold ambient temperatures triggers the body to acclimatize. If these dips in body temperature could be prevented, acclimatization may be prevented and feed efficiency for growth would increase. Kennedy based her research on the assumption that feeding cattle in the evening would make heat associated with rumen fermentation and other digestive processes available to the cow during the night and in turn suppress acclimation.

The three year studies generated mixed results that varied from location-to-location and from year-to year. Responses to evening feeding ranged from little to no response in some studies to weight gain increases ranging from 9-28% in other studies. One particular year found that rate of gain was not affected, however, cattle finished 12 days earlier. Yet a subsequent year showed a 12% increase in average daily gain and a 6% improvement in conversion. Further investigation into this relationship is necessary to make any definitive conclusions.

Food for thought

Feeding in the evening has definite benefits to calving time and possible benefits to feed efficiency in feedlot cattle. Calving time can be affected by feed time if implemented within 1 month of calving. Acclimatization and de-acclimatization also takes weeks. Does this system provide an opportunity to increase feed efficiency to lactating beef cows during a period of time where energy requirements are at their highest? Could evening feeding of mature cows increase feed energy available to lactation and/or reconditioning?