

Mount 'n Cattle

Article for the Wyoming Livestock Roundup

Dallas Mount
University of Wyoming Cooperative Extension Service
Southeast Area Livestock Extension Educator
307-322-3667
dmount@uwyo.edu

Hay Feeding Methods – Surprising Results from an Important Study

June 2007

Every now and then a research project reveals some surprising results. When these results are regarding aspects of beef production we have held as tradition, or assumed these practices to be the best method it is worth taking note. I recently read a paper evaluating the effect of three hay feeding methods on cow performance, hay waste and wintering costs and was surprised by the results. These results are worth sharing because on average, cow wintering costs in Wyoming make up the largest single input costs to cow-calf producers. This study documents an alternative hay feeding method that can produce significant savings in wintering costs.

A group of scientists from North Dakota State University designed a study to evaluate three methods of feeding round hay bales: 1) Rolling bales using a tractor 2) shredding bales using a PTO driven bale processor and 3) Using a tapered-cone round bale feeder. Three-hundred and sixty cows were randomly assigned to one of the three treatment groups each year for three years. The groups were fed hay for a sixty-day period and cow condition, hay usage and the economics of each treatment was analyzed by the researchers. During years 1 & 2 alfalfa grass hay was used, and during year 3 oat hay was used.

Here are the surprising results: During years 1 & 2 that a tightly wrapped alfalfa-grass hay was used, the cows on the tapered-cone feeders used less hay than the cows on the bale-roll out or bale processor groups. Hay intake to maintain body condition was greatest for those cows fed with the bale processor, intermediate when bales were rolled out, and the least when cows were fed using the tapered-cone feeder. On average when compared to the tapered-cone feeder, 5 and 15% more hay was fed per cow using the roll out and bale processor respectively. Hay waste was approximately 5 times greater using either the bale processor or roll out methods compared to the tapered-cone feeder. The cows in the bale roll out group gained less weight than the cows in the other two groups, but all groups did gain weight.

The researchers also conducted an economic analysis of the three feeding methods. Reasonable operating and machinery costs were assigned to the bale processor and roll out treatments and the tapered-cone feeders were valued at \$800 and assumed to feed 13-15 cows each. The economic model suggests that using the tapered-cone feeder provides substantial savings over the other two methods resulting from reduced hay consumption, equipment cost, and feeding time. When extrapolating their costs to a 300 cow reference herd for a 135 day feeding period, total costs per cow for the feeding period were \$121, \$109, and \$100 for the bale processor, bale rollout, and tapered-cone feeder respectively. Hay was only valued at \$42.50 per ton and labor at \$7/hour. I think today these numbers would be greater in their magnitude of difference.

Folks these results are significant! If you could reduce your cow wintering costs by 15-20% while reducing labor and machinery operating time would you do it? We are all too aware of the rate machinery operating costs are increasing and labor is becoming

more expensive and harder to find. As you evaluate your wintering program I encourage you to continually analyze the methods you are using and considering results of studies such as this will provide you with some critical information to help make the best decision. A link to the complete report from this study can be found at: <http://plattecountyextension.com> under the Ag and Natural Resources section. The complete paper includes pictures of each treatment and detailed charts of the data I've summarized.