

Small square bales	% Hay Wasted (as fed basis)
One day supply in rack or bunk	3 to 7%
Two day supply in rack or bunk	7 to 15%
Three day supply in rack or bunk	15 to 20%
One day supply on ground	4 to 15%
One day supply of the following	
Processed hay feed on snow cover	15 to 20%
Large round bale unrolled on ground	10 to 15%
Processed hay feed in a bunk	0 to 3%
Large round bale	
One day supply in rack or bunk	5 to 10%
Two day supply in rack or bunk	10 to 20%
Three day supply in rack or bunk	20 to 30%
One day supply on ground	10 to 15%
Two day supply on ground	15 to 30%
Three day supply on ground	30 to 45%

When feeding livestock the amount of hay wasted varies depending on the type of bale and method of feeding. The information presented in the table is based on data involving feeding cattle because of the lack of information on hay wastage with sheep. Review the information provided in the table, read this brief write-up, and then enter a value that you deem appropriate for your operations.

The use of hay feeders or bunks decreases hay wastage. When big round bales are fed without a feeder 25-46% of the hay can be wasted (McLennan, 2002) due to trampling, over consumption, and fouling with manure or urine (Cash, MSU). However, the use of feeders can result in less than 5% wastage of hay (McLennan, 2002) Anderson and Mader (1985) reported that feeding small square bales in a rack resulted in approximately 7% wastage. When fed large round bales in a rack 9% was wasted compared to 45% wastage reported by Cash (MSU) when feeding large round bales without a rack.

In a study conducted in Canada, bred heifers were limit fed hay at 90% of expected intake in three different feeding methods. When hay was chopped right onto the snow there was a 19% loss, when large round bales were unrolled into the snow there was a 12% loss and when the hay was chopped into a feed bunk there was 0% loss (Alberta Ag. Food and Rural Development and Ag. Technology Center, 2004).

Anderson and Mader (1985) summarized the hay wasted when feeding different amounts of hay. When feeding a one day supply without a rack on pasture there was 11% waste. When feeding a two day supply on pasture there was 25% waste and feeding a four day supply on pasture resulted in 31% waste. When feeding a one day supply of hay free access on the ground, 25% more hay is needed than when feeding a one day supply using a controlled feeding method such as rack feeder. When using a controlled feeding method the amount of wastage is decreased but wastage is also increased with increasing amount of feed. When feeding a one day supply in a rack there was 5% waste.

Alberta Ag Food and Rural Development and Ag Tech Center. 2004. Growing the Alberta beef industry with improved feeding management. Available at:
[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/for10399](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/for10399).

Anderson, B. and T. Mader. 1985. Management to minimize hay waste. Neb Guide. Cooperative Extension. University of Nebraska. Field Crops. B-25 Forages.
Also Available at:
http://tein.net/~msufergus/Ag/livestock/management_to_minimize_hay_waste.htm.

Buskirk et al., 2003, researched waste incurred from various feeder styles. All feeders were situated on concrete pads. When using a cone feeder, 3.5% waste occurred, when using a ring feeder, 6.1% waste occurred, when using a trailer feeder, 11.4% waste occurred, and when using cradle feeder 14.6% waste occurred.

Buskirk, D.D., A.J. Zanella, T.M. Harrigan, J.L. Van Lente, L.M. Gnagey, and M.J. Kaercher. 2003. Large round bale feeder design affects hay utilization and beef cow behavior. J. Anim. Sci. 81:109-115.

McLennan, N. 2002. Livestock Nutrition. Producing, storing, feeding, and improving native pasture hay. Dept. of Primary Industries and Fisheries. Queensland Government. Available at:
<http://www2.dpi.qld.gov.au/sheep/8528.html>.