Winter Feeding Tips (Don't Waste Your Hay)

Dennis Cash

MSU Extension Services (retired)

"Since your winter feeding program is likely your single largest ranch expense, reducing hay waste can save you money."

Winter range conditions were bare and dry through mid-December across most of Montana. Since your winter feeding program is likely your single largest ranch expense, reducing hay waste can save you money. Hay losses at feeding on most ranches averages about one fourth, but can easily approach half. So that $70 per ton hay you bought now costs you $140; or your cost of haying of $28 per ton last summer becomes $56! By the time you read this article, you may be deep into your winter hay feeding operation, however there are some steps you can take to limit hay waste.

During good haying conditions and with proper storage, most losses to alfalfa or alfalfa - grass ha ys can be minimized. Dense large round or rectangular bales are widely used, but significant losses occur when these are stacked in the open (Table 1). Hay sheds and tarps are not widely popular in Montana due to their expense or nuisance, except for a few cash hay producers not willing to sacrifice 20% of their hay crop or risk spoilage.

Table 1. Dry matter (DM) losses of hay from field to feeding (from Anderson and Mader) 1 and economic losses.

Process	**Range in % DM loss**	**Average % DM loss**	**Average $ losses for a 200-cow operation feeding one ton of hay per cow during winter ($65 hay)**
Swathing with Conditioner	1-10	5	$650
Raking	5-20	10	$1300
Plant Respiration	2-16	5	$650
Baling, % of windrow	1-15	5	$650
Outside Storing, % of Stack	5-30	15	$1950
Inside Storing, % of Stack	2-12	5	$650
Transporting Hay	1-5	3	$390
Fed in feed rack, % of stack or bale	1-10	5	$650
Fed on ground, % of stack or bale	2-45	15	$1950

Process	Range in % DM loss	Average % DM loss	Average $ losses for a 200-cow operation feeding one ton of hay per cow during winter ($65 hay)
Total, % of original standing crop	10-80	35	$4550

[1]Without rain damage. Rainfall can reduce DM yields as much as 20 percent.

For alfalfa hay, the losses in forage nutrient quality may be even more extreme than those shown in Table 1 due to leaf shatter and loss. Hay losses can be very costly when unrolling and feeding round bales on the ground – up to 45% due to trampling, over consumption, and fouling with manure or urine. Bale feeders or racks can usually be cost effective if you have the equipment and patience to use them. Significant losses occur when cows have 24/7 access to hay. Dry, pregnant mature cows will eat 20 to 30% more hay than their daily needs if they are unrestricted, plus waste increases. Daily (Table 2) or twice - daily feeding of proper amounts of hay can reduce these losses.

Table 2. Hay wasted by cows when amount fed was controlled in racks. (From W.H. Smith et al. 1974. ID-97. Purdue Univ. Coop. Ext. Serv. W. Lafayette, IN., as cited by Anderson and Mader).

Feeding System	Hay per cow per feeding, lb.	Hay refused or wasted, %	Hay required over rack feeding, %
Rack Feeding on Pasture		5	
No-rack Feeding on Pasture: 1-day supply per feeding	20	11	12
No-rack Feeding on Pasture: 2-day supply per feeding	40	25	33
No-rack Feeding on Pasture: 4-day supply per feeding	80	31	45

Regardless of how hay is fed, these losses will be minimized if you can limit the amount of hay that is accessible to trampling. Racks and round bale feeders can effectively limit hay consumption and waste. In a recent study at the NDSU Dickinson Research & Extension Center, feeding cost per cow with round bales was least expensive for a tapered - cone bale feeder, followed by unrolling bales on the ground, then by using a PTO - driven shredder to feed on the ground.

Reference

“Management to Minimize Hay Waste” by Bruce Anderson and Terry Mader (University of Nebraska Extension Specialists)