



CATTLE SENSE

Information that makes sense helping you make cents

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/// COST EFFECTIVE MANAGEMENT FOR HARVESTED FORAGES

Summer drought and winter storms have decreased the availability of, and increased the need for, hay for feeding beef cows. The resulting tight supply of harvested forages underscores the value of good hay management.

While a number of harvesting practices can impact both the quantity and quality of hay coming out of the field, we obviously can't go back and undo what's already been done. On the other hand, producers do still have opportunities to minimize storage losses and feeding waste of the hay they have now, or that they may need to purchase. Proper supplementation can also help cattle better utilize lower quality roughage.

Hay Storage

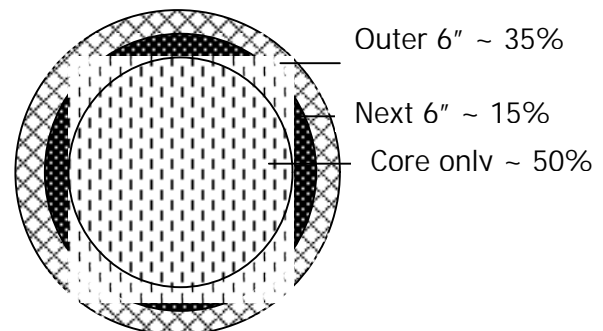
Storage losses of hay typically range between 5 and 35%, depending largely on bale or stack quality, position, site, and, of course, weather. Losses can be in the form of actual dry matter loss and also decline in nutrient value. While hay sheds and plastic covers obviously offer the best protection from weathering, a number of practices can significantly reduce losses of hay stored outdoors.

A well-drained storage site is essential. Weathering occurs not only on the tops and sides of packages stored outside, but also where hay contacts moist ground. Research in Indiana showed that storing bales on crushed rock versus the ground reduced the weathered portion from 23 to 11 % of the original bale weight. A slight slope can encourage drainage.

Big round bales should be placed tightly, end-to-end, in long rows. Orient these rows parallel to prevailing winds, to encourage clearing of snow between rows. A north-south orientation also provides sunlight on both sides of the bales. One study showed a 6-8% reduction in losses, due entirely to row direction. Keep the hay away from fences, tree lines, or heavy weed growth which could trap snow.

DO NOT stack big round bales. No matter what configuration you use, stacking simply forms a lot of crevices between bales which will trap and hold moisture. A South Dakota study revealed that in one year, large round bales stacked end to end had an 0.8% dry matter loss, while bales stacked singly lost 4.0% dry matter, and pyramid stacked hay exhibited losses of 10.3%.

The significance of weathering losses is easier to understand after thinking through the geometry of a round bale. In a six-foot bale, one-third of the hay is contained in the outer six inches; the outer 12 inches accounts for fully one-half of the bale volume. In the case of five-foot bales, one-half of the hay is found in the outer eight inches.



Feeding Practices

Some relatively common methods of feeding hay can result in tremendous losses due to trampling, contamination, and sorting. The extent of these losses is influenced by feeding method, the interval between feedings, the amount fed at one time, the size of the feeding group, and, of course, the weather.

A study conducted by the University of Missouri compared the amount of hay wasted by cows when fed with and without appropriate hay racks:

FEEDING METHOD	% WASTED
Small square bales in rack	7
Large round bale in rack	9
Large round bale on ground	45

Unless you feel the need to give your cows bedding – and next spring’s flies a good place to reproduce -- DO NOT UNROLL large round bales on the ground!

Similar results come from an Oklahoma State study, conducted with bermudagrass hay. Feed losses were 15% when cattle had free access to the hay, and only 5½ % when access was controlled with panels. These workers also evaluated daily bunk feeding of hay, which reduced wastage to 2.6%.

The same principles apply to hay stacks; collapsible racks or electric wire should be used to reduce trampling around the edges. Put a pencil to the value of the additional wasted hay, and see how quickly you can justify the cost of bale feeders.

A trial conducted at Purdue looked at the impact of both hay racks and frequency of feeding. As shown below, the inefficiencies of offering hay on the ground can be partially compensated for by increased frequency of feeding. Daily feeding can force livestock to eat hay they might otherwise refuse, overconsume, trample, and waste.

	Using Hay Rack	WITHOUT HAY RACKS		
		Fed Daily	Fed Every 2 Days	Fed Every 4 Days
Hay/cow/feeding (lb)	<i>(free choice)</i>	20	40	80
Hay refused, wasted	5%	11%	25%	31%
Increase in hay use vs. hay rack	NA	12%	33%	45%

Supplementation

Efficient use of hay supplies can also be impacted by supplementation programs. Provision of ruminally-available crude protein can significantly increase intake, as well as digestibility, of low-quality forages. In this way, QLF products allow cows to meet more of their needs with available hays, and reduce sorting and waste.

Optional strategies can result in substitution of supplement for some of the dietary hay. When forage supplies are low, and the cost of purchasing additional hay is high, this can become a favorable alternative. Some of QLF’s molasses-based feeds, with lower protein concentrations and high sugar content, are well-suited to this scenario. These sugars will supply energy and enhance rumen fermentation, without the negative associative effects often found when feeding substantial levels of grain with hay.