

Conserving or Wasting Your Hay?

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At this time of year, most cattle producers are feeding hay. Considerable expense goes into making hay and this is of even more concern when cattle prices are low. Large round bales are commonly stored outside and fed during the winter. This seems like an easy and cheap way to handle hay but the losses are high, thus increasing the cost of hay actually consumed by cattle. Let us look at these losses and think about reducing them.

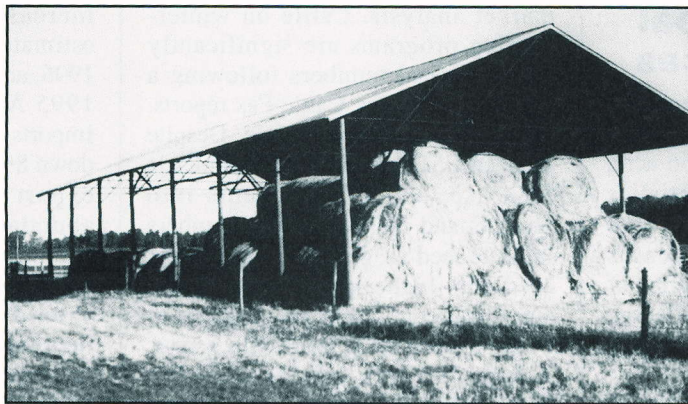
Hay storage losses

An experiment in Louisiana studied losses of large round bales of ryegrass stored after harvest in May for seven months. They totalled up the dry matter losses and the amount refused by animals when the hay was fed.

Storage System	Losses		Total
	Dry Matter	Animal Refusal	
	-----	%	-----
Ground	28	22	50
Gravel	31	17	48
Tires	35	6	41
Rack	26	6	32
Rack with cover	12	2	14
Barn	2	1	3

When bales were stored on the ground, one-half of the hay was not available for consumption by cattle. Storage of the bales on gravel didn't improve on spoilage losses and storage on tires wasn't much better. There was some improvement when bales were stored on wood racks. Using plastic covers and a wooden rack brought losses down to only 14%. When bales were placed under cover in a barn, there were virtually no losses.

The losses reported from Louisiana are high but they are representative of what occurs in Georgia. Obviously, hay cut later in the summer will have a shorter storage time in the field so losses will be lower. Likewise, during a dry



Low-cost hay storage building for bermudagrass hay built by Glenn Waller near Sandersville in Washington County.

summer the hay storage losses will be much less than during a wet summer. Outdoor storage losses of legume hay such as red clover, arrowleaf clover, or alfalfa will be even higher than for grasses.

With losses of up to 50%, outdoor storage of bales on the ground greatly increase the cost of hay actually consumed by cattle. Instead of feeding \$50/ton hay, it becomes \$80 or \$90/ton which makes wintering beef cattle expensive. Obviously, reducing these hay storage losses is one way to reduce costs of keeping a beef cattle herd.

Reducing storage losses

Ideally, all hay should be stored under cover to eliminate storage losses. However, hay cut in September or October will be fed within a few months and much of the storage time is normally during the driest period of the year so losses will be lower than hay cut in spring or early summer. It is the hay cut in spring or summer, subjected to hot rainy weather, that will incur the greatest losses and should be covered.

Polyethylene bale covers or sleeves can be used to reduce losses. They offer the advantage of allowing the bale to be left in the pasture close to where it will be needed for feeding in winter. However, they are not foolproof as rodents can chew holes in the polyethylene and allow rain into the bale. Another problem is disposal of the covers when the bale is fed.

A hay barn offers the best method of conserving hay bales and eliminating

losses. It is almost essential to protect hay carried over from one year to the next for emergency periods such as drought. A disadvantage of a hay barn is that more effort is required in transporting bales to a centrally located barn and then moving the bales out to the pasture where it is to be fed.

Building a barn for hay storage

Many cattle producers already have an old unused shed or poultry house that can be renovated for hay storage. However, if a new barn is to be built it represents a substantial cost. Cost of a pole barn for hay storage is around \$3.50/square foot when new materials are used. However, used building materials and local farm labor can lower the cost. Glenn Waller near Sandersville in Washington County used materials from an old poultry house and erected a good hay barn at considerably less cost.

When erecting a hay barn, it should be on a well-drained site. Locate the barn on a hilltop or grade the site so water will drain away from the barn in all directions. If sides are to be erected, then they should be on the north and west sides (and possibly south) as the prevailing wind direction is northerly and sometimes southerly. Information on building a suitable hay barn can be obtained from extension agricultural engineering at your county extension office.

Summary

Storage of large round hay bales without cover in the field can result in large losses. If you are fertilizing, harvesting hay at an early stage of maturity, and trying to cure it without being rained on to produce high quality feed, then it is imperative that it be stored under cover. Polyethylene covers offer flexibility and convenience in feeding but covered storage in a hay barn offers the best way to preserve hay quality and reduce losses. In response to this, more beef cattle producers are building hay barns to save their valuable hay.