

# Hay Storage Hints and Tips

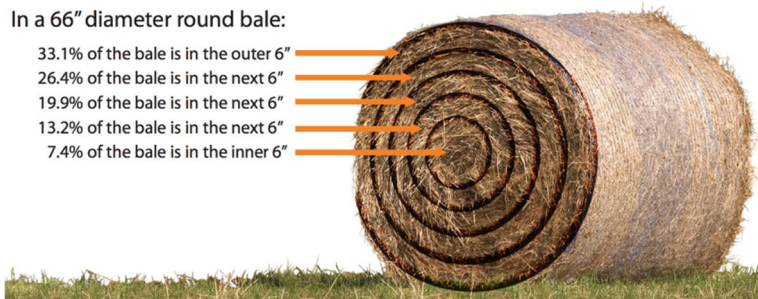
By Anthony Carver, UT Extension Grainger County Agent  
& Dr. John Buchanan, Associate Professor and Extension Specialist  
Biosystems Engineering and Soil Science University of Tennessee

## Importance of Hay Storage

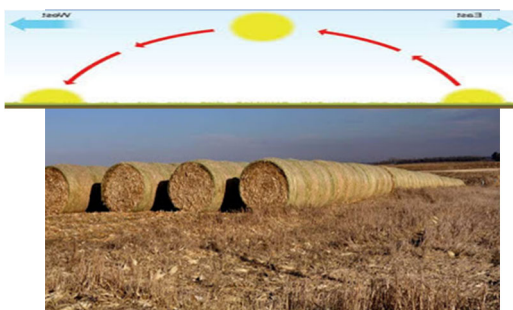
The picture of the hay bale shows that the first 12 inches of any round bale makes up over 50% of the total hay in the bale. Moisture is the number 1 enemy of hay. When moisture is present mold, rot and waste occur. When bales are kept outside and on the ground, moisture decreases the quality and quantity of feed hay.

In a 66" diameter round bale:

- 33.1% of the bale is in the outer 6"
- 26.4% of the bale is in the next 6"
- 19.9% of the bale is in the next 6"
- 13.2% of the bale is in the next 6"
- 7.4% of the bale is in the inner 6"



## Outside Storage of Hay



If no shelter for storage is available, then baling a tight bale is recommended. Net wrap also helps shed water. Place the bales flat ends tightly together making a row. The rows should run north to south on well drained soils, to get the full benefit of the sun. Rows should not touch. When rows touch, they hold rain in the bale. Rows should be placed in full sun, this helps dry the bales after rain events. Try to reduce contact with soil. Rock pads work great to keep the moisture from wicking up from the ground into the bale.

## Storing Hay Under Cover

Research has shown that storing hay uncovered and on the ground can cause 35% loss. If the bales are under trees/fencerows with tree the loss could be even greater than 50%. Having some type of cover decreases the amount of loss significantly. Tarps are a great way to decrease loss and store quality hay. Producers must keep in mind that tarps are time consuming and aggravating. Another option is to build a hay storage facility.

Storage Method	Percent Loss
Barn	6
Hay Tarp	12
Uncovered and On Ground	35



## Hay Storage Facilities

Placing hay in a barn or under roof not only is time saving, it is economical as well compared to tarps. Studies suggest that due to hay saved, time saving, and cost of hay storage, a producer can expect to recoup investment in 6 to 7 years. There are several types of hay storage facilities. Here are a few designs.



### Things to Consider When Building a Hay Barn – Size, Location/Drainage, and Construction

**Size** – Start by knowing how many bales (size of bale important) that you want to store.

**Location** – 1. plenty of space to maneuver trucks, tractors, and wagon 2. access to feeding areas 3. 75 ft from other structures (in case of fire) 4. wind and rain should always be considered 5. higher up on slopes should be used instead of lower water holding areas 6. water needs to be able to move away from the storage area.

**Construction** – Post placement is critical to prevent rot. It is not recommended any more to have a post in the ground with concrete surrounding it. This is due to rot happening caused by water staying around and creeping down the post.

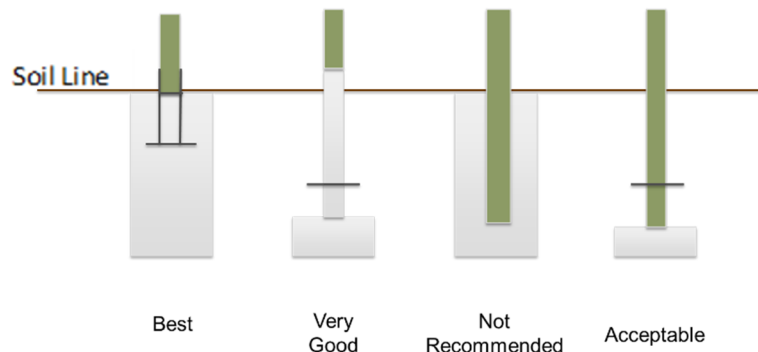
#### Post Graphic Details:

Gray color represents Concrete.

Straight dark line represents rebar piece.

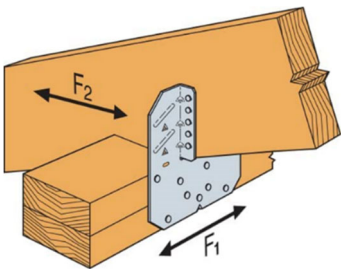
In the far left (best) represents concrete with a post connector

### Placement of Posts



**Using screws** instead of nails will prevent some building failures when dealing with wind.

**Gutters with downspouts** should be used on all roofs to direct stormwaters away from storage areas and feeding areas.



**Strapping/Ties/Hurricane Straps** should be used to connect rafters to the top plate. On open structures or even in wind-uplift events (storms) the wind is trying to force the roof to blow away. These straps will give a structure the extra strength it needs.