

Storage of Small Square Bales

Written by: John Worley, University of Georgia Extension

Submitted by: David Kehler, County Extension Director/Agriculture Agent

When I was growing up, there was little choice about how to store hay. It was virtually all stored in small square bales and much of it was stored in a barn loft.

With the advent of large round balers, large square balers and hay wrappers, producers now have a multitude of choices on how to store their hay, but the small square bale still has a strong place in the marketplace. Appearance is important in this market, so protecting the hay from sun bleaching is important as well. Storing these bales presents a different set of challenges than storing large round bales. While an open-sided barn is excellent for maintaining quality in large round bales and also provides maximum ventilation, small square bales headed for premium markets are better stored in buildings with sidewalls.

Building cost

The first challenge is cost. The resulting improvement in quality and appearance may be well worth the cost, but you need to keep in mind that you have to recover the extra cost of a more expensive building in the price of the hay. In order to make a good decision, you really need to know what it costs you each year to own a barn and how many bales you can store in that barn so you can decide whether or not the added cost is worth it to your market. These costs and added value can also be used to determine the value of renting a barn for use as storage.

Ventilation

Another challenge is ventilation. A general recommendation for ventilation is to provide the larger of the following:

1. a six-inch continuous ridge vent
2. two inches per 10 feet of barn width

These openings allow the warm, moist air to leave, but in order for them to function, you need to provide an equal area of vents near the bottom of the barn to allow cooler, drier air to enter. This can be provided by leaving the bottom six inches to one foot of the walls open. (This opening can be covered with wire to help keep out vermin.)

Flooring

It is always a challenge to keep that bottom layer of hay from getting wet and deteriorating. The most important thing to ensure when you are building a barn is that the barn floor is elevated and well-drained so that the soil under the barn stays as dry as possible. It is virtually impossible to not have some spoilage in the hay on most flooring systems unless you have a raised floor with ventilation under it. Probably the best flooring material for a hay barn would be concrete with a vapor barrier underneath it. The problem with concrete is: It is very expensive. For premium hay, this extra cost may be justified but, again, you have to recover that cost through the price of the hay sold. Coarse gravel helps to allow some ventilation under the hay. Pallets or similar devices can be placed under the hay bales. This provides good ventilation but the pallets must be moved as hay is moved in and out or must be strong enough to stand up under the weight of a tractor.

One other strategy is to stack the bottom level of hay bales on their edge. This improves ventilation, and in a worst-case scenario, if the bottom couple of inches are ruined by moisture, at least the twine is not destroyed, making it possible to handle the hay.

Small square bales will probably always be in demand. Storing them so they retain their initial quality and market appeal can be accomplished, but there is a cost associated with that high quality and that cost must be understood and accounted for if your hay enterprise is going to have the bright future we all hope for.