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You're Going To Pay For A Hay Barn Whether You Build One Or Not

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Shortly after arriving in Alabama, I had the pleasure of making a farm visit with a very knowledgeable beef cattle producer in Dallas County. Being new to the area, I was interested in collecting information about cow-calf cost of production. This beef producer shared with me that the largest single expense for most cow-calf producers in Alabama was associated with hay. We discussed the costs components of hay such as growing, harvesting, and storing costs. After making some ball-park estimates about these costs, we concluded that hay is an extremely expensive feedstuff for most cattlemen. Furthermore, this gentleman reminded me that when you factor in hay storage waste, the cost of hay could be enormous. A few quick calculations looking at outside hay storage losses ranging from 15-45 percent made me realize the significance of hay storage losses. Then this gentleman, Mr. Harrell Watts, Jr., made the following thought-provoking statement, "You're going to pay for a hay barn whether you build one or not." Ever since that day I have remembered the words he spoke. Over the years I have indeed found this to be a very truthful statement.

I think most people would agree that a large number of the 25,000+ farms with cattle in Alabama store their hay outside. This means the hay for which they spend their hard earned money to grow and harvest has no protection from the weather. As a result of this management decision, significant amounts of hay are being wasted. Furthermore, this decision also requires a larger than necessary amount of hay to be purchased or a larger number of acres to be devoted to hay production to adequately feed their cowherds.

Let's evaluate the hay needs of a 100-head cow-calf operation. If we assume the average mature cow consumes about 30 pounds per head per day, the total hay needed for winter feeding over 100 days would be 1.5 tons of hay per cow (30 lbs./hd./day * 100 days/2,000 lbs./ton). Thus, a total of 150 tons (1.5 tons/cow * 100 cows) of hay would be needed to feed a 100-head cowherd. If we assume we have a 5 percent hay loss with storing hay in a pole barn, the actual quantity of hay needed would be about 158 tons of hay (150/0.95) to feed the 100 cows. Alternatively, outside hay storage losses commonly range from 15-45 percent. If we incur a 30 percent storage loss due to outside hay storage, we would need about 214 tons of hay (150 tons / 0.70) to adequately feed the cowherd.

Next, let's assume our average hay yield is 5 tons per acre. At this yield level, it would take about 32 acres (158 tons / 5 tons per acre) to produce the 158 tons needed by the cowherd if we store the hay in pole barn. Alternatively, if we choose to store the hay outside with no protection from the weather, it would take about 43 acres (214 tons / 5 tons per acre) to produce enough hay for the cowherd. This is a difference of about 11 acres. If we spend about $400 per acre to grow and harvest hay for the season, the financial loss due to storing hay outside would be about $4,400 (11 acres * $400 per acre).

Next, let's consider what a hay barn would cost per year. The 100-head cowherd where the average cow consumes 1.5 tons of hay per winter would require about 158 tons of hay or 263 round bales (1,200-pounds per round bale). A 40-ft. x 80-ft. pole barn (3,200 sq. ft., metal truss construction) could be used to easily store 250-350 round bales. The pole barn would cost about $12,000 to build and has an estimated useful life of 15 years. The annual fixed costs (depreciation, interest, repairs, taxes, and insurance) on the $12,000 pole barn would be about $1,485 per year. If we store 158 tons (263 hay bales) per year in the hay barn, the annual fixed cost per ton would be about $9.40 per ton (or about $5.65 per bale).

Comparing the $4,400 loss from storing the hay outside with the pole barn hay storage annual fixed cost of $1,485 shows a savings of about $2,915 annually. As a result of less storage waste, you would not need to either purchase as much hay or grow and harvest as many acres of hay to feed your cowherd. Growing and harvesting less acres of hay allows for significant dollar savings to be realized from utilizing a pole barn for hay storage. It also allows you to stock a few more cows on the acreage previously devoted to hay production. Additionally, the hay stored in a hay barn would be of higher quality, provide better nutrition to the cattle, and thereby improve the performance and profitability of the cattle operation.

If more of the farms with cattle in Alabama would build a hay barn, these Alabama cattle producers could save millions of dollars. Even if the dollar savings were only one-half of the $4,400 hay storage loss per year estimated in this article, building a hay barn would still be a profitable investment. Hopefully you can easily see how much can be saved by protecting hay from the weather. After all, you really do pay for a hay barn whether you build one or not.