

Weekly Radio Ag Report
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Morning, this is Tom Getts with your Weekly Ag Report.

Fall is upon us, trees turning colors, and cool crisp nights, and the yearly uptick in precipitation. As I was enjoying the rain while fishing, my thoughts couldn't help but drift to some of the stacks of uncovered hay I saw on the drive to the lake.

So what happens to hay with time, whether it is inside or outside? Does the hay you put in the barn mid-summer stay the same for when you pull it out of the barn mid-winter? The easy answer is no. Over time changes occur in the hay altering its properties, but how much change occurs depends on a variety of factors.

The worst case scenario is uncovered hay stored outside in a wet environment. Lucky for us it is relatively dry here in Lassen County. Not only is uncovered hay exposed to moisture from precipitation, but moisture can also creep up into bottom bales from the soil. Wet hay= Moldy hay. Moldy hay can be difficult to sell even at a reduced price, and depending on how moldy it becomes may be rejected completely by livestock, resulting in a major loss in value.

A relatively inexpensive option to protect hay is to tarp it and set it on "pads". "Pads" consist of a material used to keep the bottom of the hay from touching the ground, and can range from crushed rock to pallets or railroad ties. Tarps can be made of various materials; however, polyethylene can be a good choice as they let moisture out, decreasing condensation under the tarp. Downsides of tarping include labor, material cost, and dangers for those crawling up the stacks. The golden standard for hay storage is to use a hay barn/shed. This is a large investment, which could take many years of spoiled hay to pay off, but is considered the best way to protect your hay. However, just because hay is in the shed doesn't mean that it stays unchanged with time.

Bales of hay in proper dry storage will actually lose weight just by sitting there. And I am not talking about water weight, but actual loss of dry material. Bales of hay contain moisture and microbes when you put them in storage. Over time these microbes will eat some of the non-structural carbohydrates within the hay, using some of the energy that could be utilized by livestock, and decreasing the bale weight. Increased temperature and increased bale moisture lead to more dry matter loss. In dry climates it is estimated that .5 to 1.5% dry matter can be lost in each month of storage, where this can double to 1-3% in wetter climates. In an area like Lassen County you could potentially lose anywhere from 3-9 percent of dry material over six months of storage! Likewise decreased hay quality is a concern. As the nonstructural carbohydrates are consumed by the microbes, the proportion of structural carbohydrates increase, generally causing a small increase in the neutral detergent fiber (NDF) and acid detergent fiber (ADF) values. So, hay which has been stored for a long time may not be as digestible as the day it was baled.

In years of low demand for hay, practices such as tarping could preserve the hay for a better market. Or if you are feeding the hay, proper storage could pencil out to reduced spoilage. What storage practices

you choose will depend on what is economical or feasible for you. But don't forget, even the bales sitting in the barn are losing weight!

<http://www.progressivecattle.com/topics/facilities-equipment/6867-hay-tarps-vs-sheds>

<http://alfalfa.ucdavis.edu/+symposium/proceedings/2005/05-253.pdf>

http://future.aae.wisc.edu/data/monthly_values/by_area/2053?area=CALIFORNIA>ype=bar&yoy=true

<http://fyi.uwex.edu/forage/files/2014/01/BigBaleStorage-FOF.pdf>