**Baling Green Hay**

We have had some pretty tough conditions for hay production this year. We went for months with no production due to the drought and excessive heat. We finally got some really good late summer rains and the grass recovered, providing an opportunity for one or two late season cuttings. Moisture content for round baled hay should not be more than 18%, for square bales 20% is the recommended number. The problem has been finding a window of 4 or 6 days required to get hay cured and down to the proper moisture content under the conditions we have had since the rains started.

The temperature of hay will increase the first few weeks after baling. This is mostly due to microbial activity and some plant respiration. At a moisture content of greater than 20 percent up to 35 percent, mold production becomes a great concern because it consumes nutrients in the hay and reduces its nutritive value. Mold also creates heat from respiration and produces toxins that make the hay less palatable. While mold-related heat up to about 120 degrees F does not damage hays nutritive value, higher temperatures can. Protein breakdown begins at temperatures above 120 degrees F and browning begins at about 140 degrees F. This browning reaction (caramelization) can further increase temperature and take forage nearly to the point of combustion. These high temperatures also bind up much of the protein in the forage, making it unavailable to the animal. Hay temperatures less than 120 degrees F are considered safe; between 120 degrees F and 140 degrees F, monitor closely; between 140 degrees and 180 degrees F hay is likely to spontaneously combust.

So, what can you do? Unfortunately, when conditions are as bad as they have been you are limited. Doing all you can to get your hay dried out including: using a mower/conditioner and hay tedder can help speed the drying process. This is a fall when making baleage rather than dry bales would be a great idea, but it does require specialized equipment. There are also treatment options using propionic acid and anhydrous ammonia as preservatives that allow you to bale hay up to 30% moisture. However, you must be setup to use these preservatives and there is some risk when using them. Certainly, anytime you think you may have some hay that is high in moisture do not put it in the barn. It is best to leave it in the field separated as long as you can before putting it in a hay stack. Rarely do individual bales catch fire, but when stacked tightly in a trap or barn the chances do go up for high moisture hay.

Most of the information for this article came from the Texas A&M AgriLife Extension publication Hay Production in Texas, if you would like a copy, come by or give us a call.