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Wet Hay Handling

Often, I wonder if these news columns are ever read but periodically do receive feedback from folks who read them. Same could be said for contributions to the District newsletter, but IF you've read the latest newsletter, David Hallauer – District Crops agent and I had complementary articles relating to hay harvest timing. This is another hay harvest related topic that summer rains might help to create. It seems like a relatively dry spring turned into a wetter summer, right about the hay harvest time.

Hay that gets rained on while it's still in the windrow will lose nutritional value, and if it's put up too wet or been sitting in water, has the potential for issues and needs to be managed accordingly. Moisture within harvested hay can lead to combustion. Hay should be put up at 20 percent moisture or less. When the moisture is above that percentage, microbes begin to break down plant matter, and mold growth occurs. This process produces heat and leads to the danger of combustion within the bale.

If weather conditions don't allow for proper drying and curing, baleage or high moisture baling techniques that utilize wraps to create anaerobic fermentation can be considered to limit decomposition and heat production. Should you find yourself with wet baled hay, store it away from other bales, and outside to limit the risk of a fire spreading. Periodically check temperatures with a thermometer, making sure any bales at 170°F or higher are closely monitored. Bale combustion can begin at temperatures as low as 190°F, especially in course stemmed hay, which allows more oxygen in.

Not all wet baled hay will combust, but wet bales will continue to decrease in quality. Mold growth uses plant tissues as an energy and protein source, ultimately decreasing hay quality. Hot temperatures denature cell structures, which change proteins and carbohydrates, making them less beneficial for the animal when digested. In some cases where anaerobic conditions and heat occur, hay may caramelize or become golden colored and smells sweet. This heat-fermented hay is highly palatable but also lower in quality due to heat damage during the fermentation process.

The biggest issue with mold is that it has the potential to produce mycotoxins. If mycotoxins are found in high enough levels, they can be deadly to animals who've ingested them. Most of the time death doesn't occur; but reduced intake, decreased ruminal function, and overall poorer performance of the animal is the result. This has an economic loss, as does poor rebreeding rates and decreased calf weights due to the issues associated with mycotoxin ingestion.

The best way to use moldy hay is to allow the animals to sort it. Providing good quality hay to offset the poorer hay will help to reduce the performance issues discussed. Mold often reduces palatability and thus increases the amount of hay wasted. Pregnant animals are more sensitive to mycotoxins, which can lead to abortions, so use cation with moldy hay around this class of livestock. Horses are highly sensitive to mold in hay, with danger of both respiratory and toxin issues. Additionally, mold can also be a health risk to the producer. Always wear a dust mask when working with hay that may have high amounts of mold.

Testing wet harvested hay is critical to knowing the quality remaining in the forage, as well as potentially testing for molds or mycotoxins. The quality of hay will continue to drop throughout the year until the bales cool and drop below the 20 percent moisture threshold. To make sure to get an accurate assessment of hay quality, sample by lot (*hay harvested from the same field within a 48-hour period*) a few weeks before feeding. This should give an accurate idea of the forage quality while still giving the lab time to get results back. Knowing the quality of hay allows for better decision making of how to use low quality forage and prevent underfeeding of animals.