

## 4 Tips to Get the Most out of Hay Sampling

How to properly sample hay to ensure the best lab results.



**TIME TO BALE:** Farmers across Missouri are making hay. However, before they stack the bales for storage, a beef nutritionist and university agronomist say to sample them.

Large round bales and even a few small square hay bales dot the rolling hills across Missouri. Haymaking season is in full swing. Farmers will move and stack this year's forage, but don't forget one important step before feeding — sample it.

Dennis Holthaus, senior beef nutritionist with Hubbard Feeds, says many farmers question why they should spend money on the analysis of a sample when they are just feeding the cows. "Sampling feeds and feedstuffs gives a benchmark or starting point to adequately meeting the nutrient requirements of the animal we intend to feed," he says in a news release. "All livestock classes have differing nutrient requirements to meet the potential of their genetic ability to grow and reproduce."

Holthaus is responsible for feedlot and cow-calf nutrition in Kansas, western Nebraska and Colorado. He says that harvested forages provide feed throughout the year, so farmers need to know its quality. And it all starts with proper sampling techniques.

### **How to sample hay**

Holthaus offers the following tips to help farmers with hay sampling this year:

**1, Use a hay probe.** Farmers need a hay probe that will take a core sample at least 14 to 20 inches in depth. The diameter of the core should be approximately one-half inch to provide a proper amount of both leaf material and stem or stalk.

In a 5 ft diameter round bale

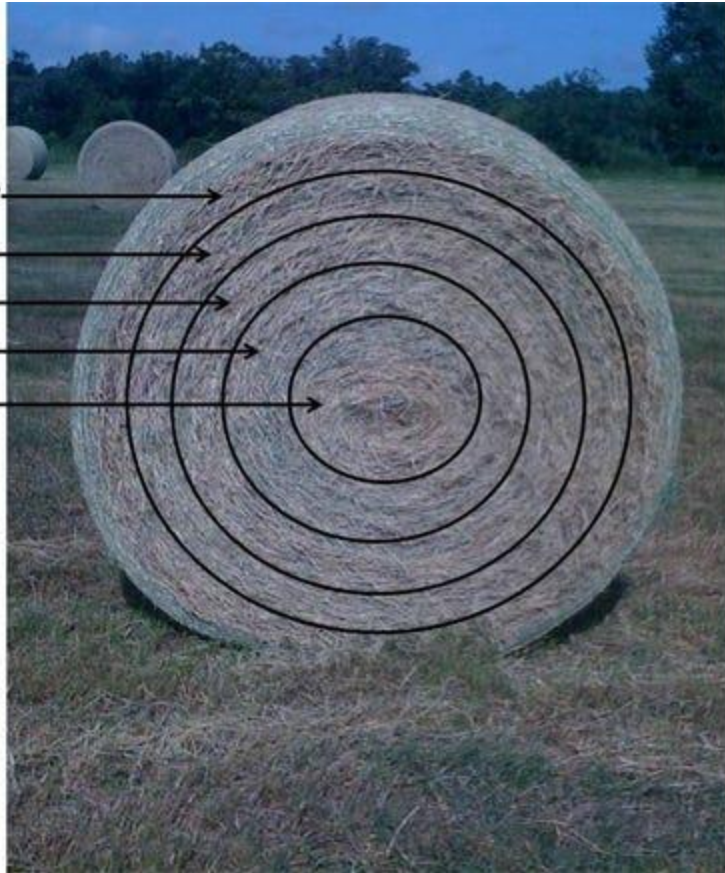
33.1% of the bale is in the outer 6"

26.4% of the bale is in the next 6"

19.9% of the bale is in the next 6"

13.2% of the bale is in the next 6"

7.4% of the bale is in the inner 6"



**CORE SAMPLE:** This illustration by the Noble Foundation of Oklahoma shows the density of the bale. Hay samples should be taken that includes adequate amounts of both stem and leaf material. (Photo illustration by Matt Hersom, University of Florida)

**2. Consider your hay bale type.** Holthaus says the core should be made on the rounded side of the bale at a 90-degree angle to the flat side for a large round, or at a 90-degree angle to the cut end of the bale for a large square. "When we consider the amount of hay we are sampling per bale, the core sample we take from a large round bale is at a higher percentage of the forage within the bale than that of a large square bale," he says.

The illustration shows the proportion of bale contained within five 6-inch sections of a bermudagrass large round bale. The density of the bale and forage type has an impact on the amount of hay within each 6-inch section; however, Holthaus points out the percentage of hay within each section should remain relatively the same. "To look at this another way, if you core-sample the outside 12 inches of a bale, you are effectively sampling close to 60% of the hay in that bale," he explains. "If you use a hay probe that is 18 inches in length, you are effectively sampling close to 80% of the hay in that bale."

**3. Don't skimp on sampling.** Sample multiple bales out of a hay lot. The lot should represent at least 10%, or at least 15, random bales. Hay that has been baled above 15% moisture should not be sampled for at least four weeks to allow the bales to acclimate to the environment.

**4. Keep each lot separate.** If sampling from multiple fields, keep all hay samples separate.

**What to do with the hay samples**

University of Missouri Extension agronomy specialist Anthony Ohmes says farmers should mix samples in a bucket and fill a quart plastic bag with the forage. Since the samples perish quickly, send them the same day to the lab.

Farmers unable to send the samples immediately should keep the samples away from direct sunlight. Store them in a cool, dry place until shipping. Ohmes says farmers can even freeze high-moisture samples, those above 15%, if they cannot be sent to the lab right away.

Make sure to mark the sample by date, cutting, location and owner before shipping, he adds.