Forage Quality And Its Importance

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Adequate animal nutrition is essential to optimize performance (rate of gain, milk production, etc). During these times of high commodity prices, it is critical to provide quality forages and minimize waste. Determining the quality of your forage will result in more accurately balanced rations, resulting in a more predictable animal response. The forage quality test is a valuable management tool that more livestock producers should use.

Forage quality can be defined as the extent to which a forage influences an animal's ability to use the feed to produce a desired response. Many factors affect forage quality (not to be confused with yield) including maturity, crop species, harvest and storage, environment, soil fertility and variety. Other factors that can influence forage quality include weeds, insects (which can cause significant leaf loss), and plant disease (particularly when plant species change or the disease causes leaf senescence). However, testing forage quality can help you control some of these factors to ultimately improve forage quality.

As with any testing method, the key is to obtain a representative sample of your hay. Without representative sampling, the results from a laboratory analysis are useless. Follow these guidelines for collecting a representative sample of hay:

• Use a good, sharp probe; dull probes will not obtain a representative sample.

• Sample several bales at random. Do not choose bales based on appearance.

• Take a sufficient number of samples; too few samples will not be representative of your hay.

Proper technique will help ensure that a representative sample has been taken; a cross-section sample of the bale will obtain the best representation of stems and leaves. Rectangular bales (all sizes) should be probed 12 to 18 inches deep and at right angles into the center of the ends of the bales. Round bales should be probed at right angles to the outer circumference of the bale.

Correctly handle the samples. Pool all core samples and place in a plastic freezer bag. Protect the samples from excess heat and direct sunlight and send immediately for analysis. To locate a hay/forage testing lab, contact your local Extension office.

Hay sample analysis generally takes a few days. Most analyses include the following information: dry matter (DM), total nitrogen, and fiber (acid detergent fiber (ADF) and neutral detergent fiber (NDF)). Some analyses may include mineral concentration (calcium, phosphorus, potassium, magnesium, etc.). Other properties listed in forage analysis reports are mathematically derived: digestible protein (DP), total digestible nutrients (TDN), net energy (NE), digestible dry matter (DDM), dry matter intake (DMI), and relative feed value (RFV).

Because hay quality varies, it is critical to test forage to make sure you are providing nutritionally-balanced rations that result in a more predictable animal response, minimize waste, and allow you to evaluate your forage management practices. Δ

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