



Cattle Producer's Handbook

Nutrition Section

305

Common Sense Feed Analysis and Interpreting Forage Analysis

*Michael J. Mehren, Livestock Nutritionist
Northwest Research & Nutrition, Hermiston, Oregon*

The best use of any feed, whether range grass, grain, or supplement, begins with an understanding of nutrient content and quality. Water quality can affect the health and performance of cattle. New water sources or unusual health or production problems may require water analysis. Unfortunately, in many instances, the process stops once a sample is taken.

Interpreting the information provided in the report of analysis and converting those figures to feeding and management plans are the ultimate goals. A simple example of the use of feed analysis follows: a 1,100-pound cow, with superior milking ability, nursing her calf requires 22.3 pounds of dry matter, 2.6 pounds of crude protein, and 14.5 pounds of TDN daily (source: CL 300).

Two hays are available. The lab test shows:

Identification	% dry matter	% TDN		% crude protein	
	as fed	dry	as fed	dry	
Field 1	88	54.6	62	20	22.7
Field 2	88	47.5	54	13.2	15

Feeding 26.5 pounds of hay from Field 1 hay meets the cow's needs; however, 30.5 pounds of hay from Field 2 hay would be required. A 4 pounds-per-cow daily saving would be made if hay from Field 1 were fed. Such a saving would pay for feed analysis many times over!

Lab Analysis

Selecting a feed laboratory is quite important. The lab selected should routinely analyze the type of feedstuff that will be submitted. Most labs testing hay and forage are certified by the National Forage Testing Association. Their analysis is routinely checked against reference

standards. Recommendations on choosing a laboratory can be obtained from livestock extension educators, university nutritionists, consulting nutritionists, feed company personnel, and veterinarians whose practice includes cattle.

Forage analysis should also include visual appraisal. A lab test cannot identify lack of color, musty or moldy smell, presence of weeds, and many other factors that would make a feed unacceptable, even though analytically it would appear to be high quality forage.

Feed analysis begins with sampling. Because of the wide variety of feedstuffs fed to cattle, several different methods of sampling are necessary.

Hay Sampling

Hay should be sampled with a probe or hollow tube that takes cores from baled hay. A handful or slice of hay is quite unsatisfactory because it tends to over- or underestimate the quality of the hay. Several commercial models of hay probes are available. Here are several:

1. Hay Chec Sampler. 12- or 14-inch probe. Hodge Products, Inc., P.O. Box 1326, El Cajon, CA 92022 phone: 619/444-3147
2. Penn State Forage Sampler. 18-inch probe. Nasco Farm and Ranch Catalog, Nasco West, 1524 Princeton Ave., Modesto, CA 95354 phone: 800/558-9595
3. Forageurs Hay Probe. 14- or 24-inch probe. Forageurs Corp., P.O. Box 564, Lakeville, MN 55044 phone: 612/469-2596
4. Oakfield Hay Sampler. 18-inch probe. Oakfield Apparatus, Inc., P.O. Box 65, Oakfield, WS 53065 phone: 414/583-4114