



Ridin' Herd

► by Rick Rasby, University of Nebraska

Base feed purchases and use on feed analysis

Summer haying is well under way. Some areas of the United States have received some spring rains and the cool-season forage production was pretty good. The cost of forages, the major source of energy for the beef cow, has caused annual feed costs to be high the past few years. Because of the widespread drought of 2012 and the continuing drought in some areas in 2013, it is a wise management strategy to begin securing forages for the winter feeding program if that is your system.

Nutrient analysis

A nutrient test for quality is the best way to know the nutrient profile of forages. Not all feeds/forages are average; some are less than average, and some are better than average. If forages need to be purchased, price all possible sources on a price per pound of nutrient basis on a 100% dry-matter basis. This places the comparison on the same moisture basis.

Once a feed sample has been collected properly, it can be analyzed for nutrients. A nutrient analysis of a feed/forage is only as good as the sample collected. If a forage is being sent in for analysis, use a forage probe. If you don't have one, call your extension office to see if they have one that they loan out. Most commercial laboratories offer standard feed tests for forages, grains or total mixed rations.

Analyzing cattle feeds for moisture, protein and energy is recommended. If minerals are a concern, consider a mineral analysis. Results of a feed analysis are reported on an as-is and dry-matter basis. Nutrients should always be balanced on a dry-matter basis because nutrient requirements for beef cattle are reported on a dry-matter basis. After formulation on a dry-matter basis, values can be converted to an as-is basis (using the

dry-matter content of the feed) to determine the actual amount of feed (as-is) that should be fed. As an example, if the ration calls for feeding 24 pounds (lb.) per head per day of a feed on a 100% dry-matter basis, and that feed is 90% dry matter and 10% moisture, then on an as-fed basis, you would need to feed 27 lb. per head per day ($24 \text{ lb.} \div 0.90 = 26.6 \text{ lb.}$).

Feed analysis

Feedstuffs can be analyzed using traditional wet chemistry technique or near-infrared reflectance (NIR) spectroscopy. Samples can be analyzed more quickly, and usually cheaper, using NIR. NIR is only useful for feedstuffs and ingredients that have been well-characterized using wet chemistry.

Make sure the sample sent for analysis is identified correctly so that the laboratory can access the proper library to compare your sample to for an accurate analysis and results. Ask the laboratory if their database for your particular sample is extensive enough to ensure accurate results, especially if you are analyzing less-common feedstuffs.

Purchasing feeds/forages

Protein and energy supplements are designed to compensate for deficiencies in crude protein or energy content of the base diet. For beef cows, the base diet is forage. The objective of a good supplementation program should be to supply the required amount of protein or energy, rather than a specific amount of supplement. Therefore, when choosing among various feeds, a good strategy is to calculate the cost of each supplement or feed on a cost per pound of

nutrient in the supplement, then purchase the feed or supplement that is most economical.

To calculate cost per pound of nutrient, simply divide the cost per ton of the supplement by the number of pounds of nutrient in a ton of the supplement. This assumes that all supplements are similar in

moisture content. The result is the cost per pound of nutrient [example: crude protein or total daily nutrients (TDN)]. When all feed options are priced on a cost per pound of nutrient, the most economical supplement can be identified.

There are other factors to consider when purchasing feeds. With today's fuel prices, purchasing a supplement with a greater concentration of nutrient may decrease delivery cost because fewer tons would be needed to supply the same amount of protein. Supplements may differ in the amount of waste that results when they are fed or delivered.

For example, alfalfa hay does not cost the same amount to deliver to cattle and results

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**Harvested forages
may be in tight
supply; get ahead
of the possible
panic by planning.**

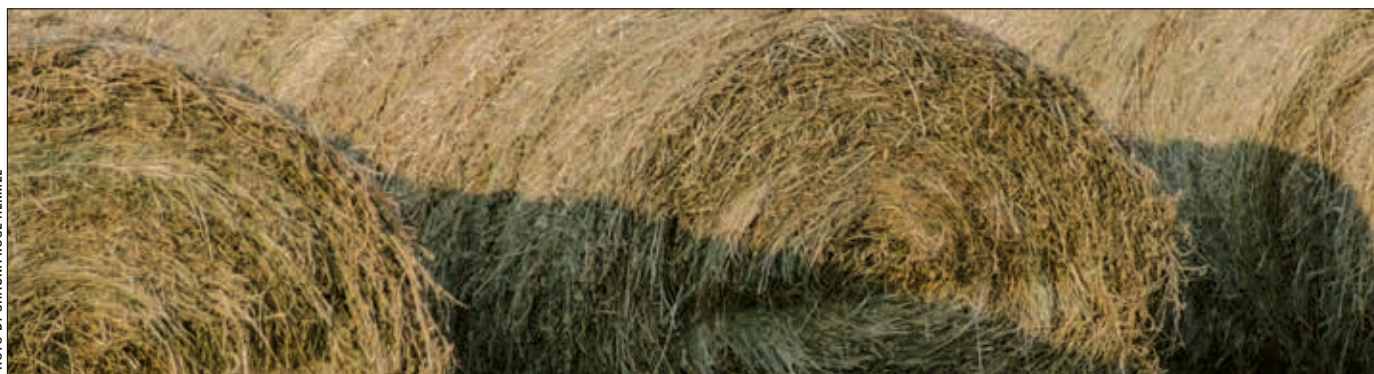


PHOTO BY SHAUNA ROSE HERMEL

in more waste than feeding cubes, but it may still be the more economical supplement. Producers can easily account for cost differences in transportation, feeding and waste in addition to purchase price of various supplements by using the "Feed Cost Calculator" found online at <http://westcentral.unl.edu/agecon/> then click on "Livestock Production Decision Aids," then "Feed Cost Cow-Q-Lator." Excel is needed to open the spreadsheet.

As an example, distillers' grains can be purchased in three different moisture contents; dried (10% moisture), modified (50% moisture), or wet (65% moisture). If dried distillers' grain is priced at \$225 per ton and wet is priced at \$80 per ton, which is the best buy as an energy source if both are 110% TDN? Dried distillers' grains are 11¢ per pound of energy on a 100% dry-matter basis, and wet is 10¢ per pound of energy on a 100% dry-matter basis. Assuming that the equipment is available to feed either dry or wet distillers' grains, then wet is the best buy.

Final thoughts

Making decisions using accurate information, such as a forage analysis, is always important, but it may be even more important in years when forages are expensive. Some of the forages that may be available this year may be ones that we have not commonly fed to beef cows, so an accurate forage analysis will be important. Pricing feed on a per-ton basis only tells part of the story of which feed is the "better buy." In fact, it may lead to the wrong decision.

Price feeds adjusted to the same moisture content. It is easy when feed prices are compared on a 100% dry-matter basis and on the nutrient (energy or protein) that the feed is being purchased to supply. The greatest impact on forage quality is maturity at harvest. Quality must be balanced with forage yield.



EMAIL: rrasby@unlnotes.unl.edu

Editor's Note: Rick Rasby is a beef specialist with the University of Nebraska.