

Making Lemonade from Lemons – Feeding Poor-Quality Roughage

Eric Mousel, University of Minnesota

Much of the region saw extremely wet conditions this summer. For a lot of folks, the spring started out normal or even a little dry, but by early summer the faucet was wide open and did not seem to stop. With very few drying days between rain events, many found it tough to find enough dry days to dry down hay. Even if they had wrappers, they could not get into the fields. As a result, many people fell behind on first cutting and never caught up. In a number of cases this year, I saw first cutting alfalfa which tested under 10% crude protein. The result was a lot of mid- to poor-quality roughage put up that will need to be fed to beef cattle. Although using poor-quality roughage is a common practice and is really not concerning for beef operations, protein supplementation will be needed in most cases.

Cattle prices have tanked since mid-summer so many operations are scrambling to keep costs down. The first place many farmers will look is cutting feed costs. Unfortunately, supplemental protein generally comes with the biggest price tag, so it is usually cut the most. However, due to the quality situation many will be facing this year, I would highly advise farmers to search for good value in supplemental protein, instead of cutting it out of the budget completely.

The bright spot in all of this is there is some value, at least compared to the last few years, in commodity protein supplements. Although there are many options in protein supplementation, the primary supplements in beef diets are plant-based by-products and commercially produced supplement products containing either a by-product, plant-based protein or a urea-based protein. The difference really boils down to convenience. Bulk by-product proteins are generally a much better value but require handling and storage equipment facilities to keep the product fresh. Commercially produced supplements are manufactured into easy-to-handle and easy-to-store products such as cake, blocks, or lick tubs, but they come with a bigger price tag.

To determine the value of a particular supplement, calculate the value per unit of crude protein using the following equations:

$$2000 \times \% \text{ crude protein} = \text{total pounds crude protein per ton}$$

$$\text{Bulk price per ton} \div \text{total pounds of crude protein per ton} = \text{price per pound of crude protein}$$

Although many products have relatively high bulk prices per ton, the value can be determined by assessing the cost per pound of crude protein to make comparisons. The table compares the products' bulk price and corresponding price per pound of crude protein.

Table 1. Crude protein sources, crude protein content, price per ton, and price per pound of crude protein.

Product	Crude protein content	Price per ton	Price per pound of crude protein
Canola meal	40%	\$165	\$0.20
Dried distillers grains	30%	\$95	\$0.15
Soybean meal	46%	\$307	\$0.33
Cake	20%	\$225	\$0.56
Lick tubs	20%	\$900	\$2.25

As of this writing, canola meal and distillers grains were very competitively priced as protein sources. Although soybean meal is down from the past few years, it is slightly more expensive on a pound of crude protein basis, but is still a competitive protein source for beef cattle. Commercial supplements such as cake and lick tubs are still substantially more expensive on a pound of crude protein basis, however, this calculation does not include a convenience factor value accounting for the equipment and facility needs of storage and delivery for the other protein sources.

The protein sources listed here are traded daily and prices fluctuate frequently. Therefore, values must be updated regularly to keep abreast of current prices. Protein is an important part of the ruminant diet. Be sure to keep adequate protein in your feed despite the rush to cut costs.