

Five tips for Winter Feeding

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Winter brings about many management considerations for beef producers. While this time last year, producers were concerned with drought conditions, many producers in the state are now eligible for disaster assistance because of the opposite reason, too much rain. This leads to a different set of concerns than lack of hay. By the time many were able to get in fields to put up hay, forages had become nature, leading to decreased digestibility and nutrient content compared to what many producers are accustomed to.

This time of year discussions among producers and questions posed to extension agents and beef specialists across the country often turn to feeding and supplementation. Feed costs still represent the largest expense for beef producers, and are often a subject of much concern. However, rather than trying to eliminate feeding costs or reduce them to the point that rebreeding may suffer, I offer the 5 tips below for giving your winter feeding program an evaluation.

1. Test your hay

This is something that I preach over and over again, and something that is still a challenge for a lot of producers to implement. While it is true that your cowherd may be required to consume that hay that you have produced or purchased no matter the quality, hay testing serves several purposes. First, it allows us to determine nutrient levels in forage and eliminate guesswork in supplementation programs. Considering that many be faced with a situation with below average hay quality, this becomes even more important. There are many factors that affect hay quality including maturity, management, harvest, storage conditions, rain damage, and insect or disease damage. Forage testing also allows producers to match forage/feed supply to animal nutrient requirements, and more efficiently design a supplemental feeding program. A list of available forage testing laboratories can be found here:

<http://extension.msstate.edu/publications/publications/forage-and-manure-analysis-laboratories>

A good suggestion is to involve your local extension agent in assisting in pulling and sending off your forage sample. Getting a representative sample is very important. This means that the sample you send off to be analyzed should represent each lot of hay with different samples collected for each field and cutting. Using a hay probe to collect the samples, rather than grabbing a handful from the center of the bale, is important. Use the probe to drill through the layers of the hay bale, and plan on sampling 15-20 bales, and combining those samples into a subsample to send off for analysis.

Forage analysis itself can be a daunting task to interpret. The first 2 values typically given on a forage analysis report are moisture and dry matter. Moisture is simply the water in a feed or forage. Moisture level is of particular interest in stored forage samples, as excessive moisture levels in hay crops can lead to hay heating, quality losses, and even hay fires. Dry matter (DM) is the air-dried component of the feedstuff with all the moisture removed. Next you'll notice that nutrient values are given in 2

columns on the report, As Fed or Dry matter basis. It is important for comparing hay samples or feedstuffs to only compare values under the dry matter basis column. This represents the nutrient levels after the moisture content of the sample have been removed, and thus allows forages to be compared on a similar basis. Crude Protein (CP) is often the next value given on the report, and is especially important because it is the most expensive nutrient to supplement. Total digestible nutrients (TDN) is another important nutrient to consider on your report, and it gives an estimate of the energy content of the feed or roughage. There are typically 2 measures of fiber given on the report as well Neutral detergent fiber (NDF) and acid detergent fiber (ADF). Neutral detergent fiber represents the total fiber component of the feedstuff. Typically, this is used to help predict intake by animals consuming the feedstuff. As NDF increases, intake is expected to decline. Acid detergent fiber is the value that corresponds to the level of cellulose and lignin in the plant. It is important because lignin is considered indigestible by the animal. Therefore, ADF is the estimation of the component of the feedstuff that is indigestible. The greater the ADF value, the more indigestible the feedstuff. More information on interpreting forage analysis reports can be found:

<https://extension.msstate.edu/sites/default/files/publications/publications/p2620.pdf>

2. Plan supplement around your forage

Number 2 immediately follows number 1 for a very important reason. As cattlemen and women, it is important that we are just as good of stewards of our grass as we are of our cattle. Planning a winter supplementation program should be designed to complement the nutrients available from your hay or winter forage. As better quality forage is available, cattle should not need to consume as much supplement.

3. Price based on unit of nutrient

Often when comparing feeds on a price per bag or a price per ton basis, it's easy to get sticker shock. Feeds that are high in nutrient value often carry a more expensive price tag. It is helpful to compare feeds on a cost/unit of nutrient basis. Since protein is the most costly nutrient, it is most commonly used for this calculation.

To calculate the price of a feedstuff on a \$/lb of crude protein (CP) basis:

For a 20% CP supplement at \$233/ton:

$$2000 \text{ lb} \times 0.20 \text{ CP} = 400 \text{ lb CP}$$

$$\$233/\text{ton} \div 400 \text{ lb CP} = \$0.58/\text{lb CP}$$

Using this basic calculation a variety of feedstuffs can be compared on a nutrient equivalent basis, and this calculation can be applied to other nutrients as well. Total digestible nutrients (TDN) is useful to compare the energy value of feeds. If we use recent commodity prices from Feedstuffs magazine and average values for CP, several popular supplement options can be compared on a nutrient equivalent basis.

4. Consider the value of time

Too often, when visiting with producers about winter feeding plans, I hear them devaluing their own time and effort. There are certainly many options available for producers to supplement their cows in the winter, and any combination of custom options that can be created. In addition to the price tag of the supplement, I also encourage you to consider the added expense for your time and labor to deliver the supplement to your cattle.

5. Don't forget the minerals

A good mineral program is not cheap, and a cheap mineral program is not usually good. Minerals are important for every function in the body from growth to immune function to reproduction, and are certainly not the area in your nutrition program to skimp. A good rule of thumb is to check your ingredient list on your mineral tag, a mineral containing more oxide forms is not as available to the animal and typically carries a cheaper price tag. As you move up the bioavailability scale, expect price to increase, with the most available mineral forms being chelated minerals, or those bound to amino acids, which are more readily absorbed by the body. These mineral forms are not typically recommended to be fed year round (mostly due to their costly price tag), but are recommended for times of high stress or need, such as weaning/receiving and breeding.

For more information about beef cattle production, contact an office of the Mississippi State University Extension Service, and visit extension.msstate.edu/beef.