



Ridin' Herd

► by **Rick Rasby**, beef specialist, University of Nebraska

Evaluate supplementation strategies

How can your cow-calf enterprise be more efficient and lower input costs in 2015? You may want to explore options in protein supplementation.

Introduction

Calendar year 2014 was a great year financially for cow-calf producers. The input cost increases that were so prevalent for many years prior to 2014 seemed to level off or decrease in 2014. Most states where cow-calf production is a major economic component seemed to see major reductions in the price of forages. Although the price of distillers' grains increased, especially late in 2014 and early 2015, there were times in 2014 that distillers' grains could be purchased at 70% the price of corn. Reductions in feed costs equated to a very profitable cow-calf enterprise.

Fuel prices have plunged in late 2014. Still, as producers strive to keep input costs in check, there are strategies to continue to attack fuel and labor costs that relate to the nutrition program. How supplements are delivered, especially if the diet is deficient in protein, may lead to a reduction in input costs. There are plenty of data that suggest no decrease in performance of beef cows if a protein is supplemented daily compared to less frequently.

Supplementation frequency

Even with the recent decrease in fuel costs, fuel costs still impact overall cow costs. Decreasing the frequency of protein supplement delivery can reduce costs. Numerous research studies have demonstrated similar animal performance when cows are fed protein supplements either daily or twice the daily amount fed every other day. Even longer intervals have been shown to be effective.

In a study completed at Oregon State University, cows were fed a hay diet during the last trimester of gestation that did not meet the cow's protein needs. The cows were supplemented soybean meal at a rate of either 1.6 pounds (lb.) every day, 4.8 lb. every third day or 9.6 lb. every sixth day.



Cows in all three treatment groups gained the same amount of body condition during the 78-day supplementation period. Achieving similar performance with infrequent delivery of protein supplements is likely a result of the ruminant animal's ability to recycle nitrogen.

Infrequent feeding of protein supplements is effective, but this strategy does not work with energy supplements. Energy supplements need to be fed daily.

Feeding frequency

Assume cows are grazing dormant native range and it has been determined that the diet

is deficient about 0.68 lb. of protein per day. After shopping around and pricing many different supplements on a price-per-pound-of-protein basis, it is determined that the best buy is a 36% protein cake, and the cake feeder has a loaded capacity of a ton. The cake is 36% protein on a dry-matter (DM) basis and is 90% dry matter (10% moisture).

To determine the amount of the 36% protein supplement that needs to be fed, divide the deficiency by the percent protein in the cake. Doing the calculations, it is determined that 1.8 lb. (0.68 lb. ÷ 0.36) per head per day on a DM basis is needed. If the supplement is 90% dry matter, 2.0 lb. per head per day (1.8 lb. ÷ 0.90) of the 36% protein supplement needs to be fed to get 0.68 lb. of protein daily. If the supplement were fed daily, 2.0 lb. per head per day would be needed; if fed every other day, 4.0 lb. per head per day would need to be fed; and if fed

once weekly, 14 lb. per head per day would be required.

The cake feeder capacity is 2,000 lb. If the supplement were fed once weekly, 143 cows (2,000 lb. ÷ 14 lb. per cow) could be fed in one trip. If you were feeding twice weekly, 286 cows (2,000 lb. ÷ 7 lb. per cow) would be fed in one trip. You can do the rest of the calculations.

With this same thought process, cows could be packaged in groups in pastures that accommodate supplementation amounts and feeder capacity. In addition, moving cows to pastures that are located to reduce driving distance would help reduce labor and mileage costs. Most producers are already doing this. If you want to use a pasture that is away from the headquarters, consider using it first in the winter grazing rotation when the forage resource needs less supplementation because of the cows' stage of production (further from calving).

If labor costs were \$10 per hour, the cost per mile were \$0.60 per mile, it took one hour and it was 10 miles per round trip, the cost to deliver a ton of cake would be \$16. If 286 cows were supplemented per trip, the cost per cow would be \$0.06 per head.

Supplementing energy

Energy supplements need to be fed daily. Cattle don't have the ability to recycle starch like they do protein. As a rule of thumb, a protein supplement contains greater than 25% protein, and an energy supplement contains 20% crude protein or less. Cattle need energy daily to sustain life.

Most energy supplements contain feeds that contain starch, and feeding large quantities of starch infrequently can cause digestive upsets and will have a negative effect on forage digestion. As an example, a heifer diet after calving is usually deficient

in energy. Corn is a good energy source, and after balancing the diet, it called for 3 lb. per head per day of corn. Feeding 6 lb. per head per day of corn every other day would have a negative effect on forage digestion. When energy supplements high in starch are supplemented, make sure the protein in the ration is balanced.

Energy supplements need to be fed daily. Cattle don't have the ability to recycle starch like they do protein.

Protein can be supplemented less frequently than daily and cow performance is not jeopardized.

Final thought

In good financial times, sometimes it is easy to let off the gas pedal and not attack costs. Continue to trim away at input costs. Make sure as strategies are considered that the strategies will not reduce productivity, especially reproductive performance of the cow herd. Although cull cows are worth a lot of money, pregnant females are worth a bunch more. Examine cost-effective ways to deliver the supplement, especially if the deficient nutrient is protein.

Protein can be supplemented less frequently than daily and cow performance is not jeopardized. In addition, supplementing less frequently than daily means that more of the supplement is fed and more timid cows, usually young cows, have a better opportunity to consume their fair share. Make sure that the supplement is spread over enough of an area that the boss cows don't push the more timid cows away from the supplement.

In the winter, when cows are in the latter

stages of gestation, many producers like to look at the cows more often than once a week, but twice or three times a week may be enough, especially if the weather doesn't warrant checking them more often.



EMAIL: rrasby@unlnotes.unl.edu

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