

Ridin' Herd

Spring/summer mineral considerations

by **RICK RASBY**, *beef specialist, University of Nebraska*

Feed costs are the major costs in producing a weaned calf. The beef cattle industry has recently experienced some of its greatest profits per cow in history. Feed costs in many operations represent 60%-70% of the total annual cow cost. Some have estimated that 50% of the herd-to-herd variation in profit exists due to feed costs. As you think about attacking feed costs, the major focus would be to address harvested feed costs.

Management strategy

Data strongly suggest that profit potential increases as cows are managed to spend the majority of the year deriving nutrients by grazing. Implementing this kind of production management strategy needs to be carefully evaluated, as it will affect grazing management, marketing strategies for calves and cull cows, and heifer and young cow management strategies.

Feed costs, labor costs, fuel costs and machinery costs have contributed to the increase in cow costs. In the past, mineral supplements have not been major contributors to cow costs. However, mineral costs — especially phosphorus (P) costs — have increased substantially.

As producers strive to remain competitive in a climate where costs continue to go up, they will need to push the pencil on every management decision.

Salt

The one mineral that should always be supplied to cows free choice is salt. Range cows will consume 0.05-0.1 pound (lb.) per cow per day. At these rates, a cow will consume 20-30 lb. of salt per year. Some would say salt is the only nutrient that cows have the nutritional wisdom to consume at a level to meet their requirements.

So, to cut or not to cut? Don't cut this out of the program. Salt, relative to other minerals, is cheap.

Magnesium

Magnesium oxide is the most common form of supplemental magnesium used to prevent grass tetany. If your cattle graze pastures where they have experienced grass tetany, magnesium oxide supplementation is necessary.

Magnesium oxide is not very palatable and has been characterized as having a bitter taste. Livestock are often unwilling to

consume it at recommended levels, making free-choice supplementation to grazing cattle sometimes a challenge.

Mineral supplement manufacturers have remedied some of the intake concerns by adding intake stimulants to increase consumption to levels necessary to combat grass tetany. Grass tetany mineral can be expensive, so getting intake to the recommended levels is important.

Grass tetany occurs in cattle most frequently in the early spring. Grass tetany, also termed hypomagnesemia, simply means a deficiency in magnesium (Mg). Prolonged magnesium deficiency results in excessive urination and erratic and nervous behavior (also called grass staggers).

Grass tetany results from the consumption of lush forage, which has low levels of magnesium. The apparent depression in magnesium levels results from the high water content of rapidly growing plants. If left untreated, death can occur within several hours.

In northern regions, where producers feed more harvested forages, winter tetany can occur. Many grass hays and cereal grain hays can be low in magnesium (< 0.15%) and high in potassium (K). When magnesium levels in hay are below 0.12%, cattle may become susceptible to magnesium deficiency. In addition, if calcium (Ca) levels are low and potassium levels are high in these feed sources, winter tetany can result.

Drought conditions often result in increased use of hays and crop residue alternatives. Drought-stressed forages typically are higher in potassium, which also contributes to the condition. Feeding a mineral supplement high in magnesium should prevent problems associated with grass or winter tetany.

Forages prone to causing grass tetany are deficient in magnesium and sodium and have an excess of potassium. Sodium is involved in transporting magnesium into cells, so it is critical to maintain adequate sodium (sodium can be supplied from salt) to facilitate proper magnesium utilization. Excess potassium consumption interferes with magnesium absorption from the gut, thus further exacerbating the condition of low dietary

magnesium. In areas where grass tetany is prevalent, it is critical to consider dietary levels of sodium and potassium as well as dietary magnesium intake.

So, to cut or not to cut? Don't cut this

mineral out of the program if you are in an area where cattle are prone to grass tetany. Again, a mineral program to guard against grass tetany is not cheap. Begin supplementing with the tetany-prevention mineral 20-30 days before grass "turn out" in the spring. Because cattle grazing lush, rapidly growing cool-season forage

are more prone to tetany, especially if there is an interruption in grass growth, continue supplementing the tetany prevention mineral for about a two-week period into the grazing season. By this time, growing conditions should have leveled off.

Phosphorus in mineral programs

Phosphorus is a required mineral by beef cattle and is one of the most expensive minerals in a mineral supplement. Phosphorus needs are affected by stage of production, level of milk production, and phosphorus supplied by the forages and feeds that the animal is consuming.

A key to determining the amount of phosphorus needed in the mineral supplement is knowing what the animal is getting from the forage being consumed. While cows are consuming dormant range and cornstalks, some phosphorus will be needed in the mineral.

Usually the phosphorus will need to be in the 6% and 12% range. Knowing whether a 6% or 12% phosphorus mineral is important because there are differences in price between mineral supplements with these levels of phosphorus.

Phosphorus needs to be supplemented through the breeding season. Again, the amount needed depends on what they are getting through the grazed forage. In the Sandhills of Nebraska, using some forage sampling data, an intake of 2 ounces (oz.) per day of a 6% phosphorus mineral does the trick. After the breeding season is over and the lactation curve is heading downhill, the amount of phosphorus in the mineral needs to be critically evaluated.

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important for
beef cows.
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Final thought

Minerals are important for beef cows. Overfeeding them is not economical. Contact your state beef specialist to request mineral profiles of common grasses in pastures in your state. Then do the calculations to determine mineral supplementation strategies. Depending on where you are located, other minerals may be critical in your mineral supplementation strategy.

A handwritten signature in black ink that reads "Rick Rasby". The signature is written in a cursive, slightly slanted style.

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Editor's Note: "Ridin' Herd" is a monthly column written by Rick Rasby, professor of animal science at the University of Nebraska. The column focuses on beef nutrition and its effects on performance and profitability.