By Clinton Laflin,
Livestock Production Agent

Corner Post CONVERSATIONS

K-STATE Research and Extension | Midway District

"AS I SEE IT"

An unseasonably wet and cooler August means fall is fast approaching. With the calendar turning, it means that producers must start making decisions on a feeding strategy for the cowherd for the remainder of 2024 and early 2025. Many producers across the district may have to buy hay this fall with decreased hay production. If you are considering buying hay, please remember to ask the seller for a hay analysis.

These test results will show protein and energy levels of the hay as well as hay digestibility. If you are buying alfalfa a Relative Feed Value, RFV, test will show the nutritive value of the hay. If you are putting up or purchasing any variety of sorghum-sudan hay it is imperative that you ask for a nitrate test on that hay. Nitrate levels in these types of hay can be detrimental to cattle performance, and possibly fatal if the nitrate level is not managed properly in your feed rations. I know I test hay for many of you, but labs such as SDK and Servi-Tech and others also offer this service for producers.

The extension office has hay probes available for checkout in both Ellsworth and Russell, if you would like to check one out swing by our office. I enjoy consulting producers on feed tests, so if you have any questions on the process please let me know. For reference I have attached our feed testing guidelines below:

- For large round or square bales, the probe should penetrate at least 18 inches into the bale and have an internal diameter of at least 3/8-inch. I recommend sampling at random approximately 10% of the bales in a given “lot” that you wish to sample. A “lot” of forage consists of forage harvested from one field at the same cutting and maturity.
- Collect samples from random bales within the sample by coring straight in from the center of the end of square bales, and from the wrapped circumference of round bales. Place all samples from that “lot” of hay into a plastic bucket and mix around, filling a gallon sized plastic zip-lock bag with a portion of the sample. This will be shipped to the lab.
- For chopped or ground hay, collect about 10 small samples during the grinding process and place them in a plastic bucket for mixing then place the sample into a zip-lock bag for transport. If you are sampling a pile, take about one-fourth of the samples from the top half of the pile and the rest from the lower half.
- You can use a gallon sized ziplock bag to bag your sample. Before putting the sample in the bag, please write the date the sample was taken, a sample ID differentiating it from other samples, and your last name so that it isn’t lost upon arriving at the lab.

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This newsletter is designed to provide you with timely information on relevant issues facing livestock producers today. If I can assist you moving forward please contact me.
Looking forward to working with you!

K-State RESEARCH and Extension Midway District#15

MINERAL CONSUMPTION IN CATTLE

Minerals and vitamins are a very challenging aspect of beef cattle nutrition. This is mostly because plant mineral and vitamin precursor levels are influenced by many factors including soils, water, and forage growing conditions. As such, mineral plans can and do vary significantly from one operation to the next. Regardless of the specifics of your program, the following are my top 10 most important things to keep in mind with free choice minerals.

1. Remember the priority of nutrients. Energy and protein are of higher priority than minerals and vitamins. When concerns regarding reproduction or calf performance arise, mineral or vitamin status of a cowherd is often questioned. Only after important production calculations (i.e. calf crop weaned per cow exposed) are made and the adequacy of the key components (energy, protein) of the cowherd nutrition program assessed should minerals and vitamins be further evaluated.
2. Take time to plan what your needs will be. While estimating product usage can be challenging, accurately budgeting how much mineral you will use for the next several months or even the entire year can help avoid under- and over-purchasing which is important because either can impact cash flow. Your feed service provider can also help estimate mineral usage based on how products are designed and what your needs are.
3. Measure intake to help plan your needs. Record when and how much mineral is being put out for a group of cows and track consumption on a pasture or group basis. Remember, while we may observe a wide range in actual consumption we are targeting an average per label directions.
4. Both management and ingredients used impact consumption. Proximity to water and resting areas, water source, supplementation of other feedstuffs, precipitation, feeder design, and number of animals per feeder all drive consumption, either positively or negatively. While greater levels of magnesium are typically associated with decreased voluntary intake, salt may either stimulate or inhibit consumption all else being equal.
5. Read, understand, and follow label directions. It is always important, but particularly with medicated minerals that one clearly understands the label. If medicated, you need to know 1) what the product is medicated with 2) what the dosage is and units used are and 3) the intended use of the product.

By: Dr. Jason Warner
KSU Beef Cow Calf Specialist

MINERAL CONSUMPTION Continued

6. There can be value in custom products. Accurate forage and water analyses can aid in the formulation of custom products which may be appropriate and economical for some operations, but volume minimums, and product quality and consistency need to be considered.
7. Focus on Ca and P. Calcium and phosphorus are two of the most important macro minerals and requirements for the beef cow change throughout the year similar to energy and protein. The P requirement for a 1,200 lb lactating cow grazing a forage containing on average 0.2% P (DM basis) would be exceeded by 4 oz/hd/day of a mineral containing 6% P, thus providing some margin if forage is of lower P content than assumed.
8. Keep salt in mind. If a free choice mineral supplement contains 25% salt, 4 oz/hd/day of consumption would provide 28 g/hd/day of salt or 11 g/hd/day of sodium which would meet the sodium requirements of a typical beef cow. Therefore, feeding a product containing ≥ 25% salt would not require additional free choice salt to be fed based on meeting the sodium needs of a beef cow.
9. Micros come in varying packages. Many different sources of trace minerals exist in the feed ingredient market, and they all have a proper place in which they can be effectively used for the benefit of the animal. A conversation with your feed service provider can help you navigate the intended use of products based on their trace mineral source and level as well as ensure the difference in cost is within your budget.
10. Avoid overconsumption. With current prices, a sound and well managed mineral program can be implemented for $40-50 per cow per year (Table 1.). While underconsumption can certainly be costly if deficiencies arise, overconsumption is likely to occur more frequently and represents additional costs which should be retained to improve profit margin per cow.

Table 1. Effect of product price and intake level on mineral program cost[1].

Mineral Price		Target Intake[2]	Actual Intake[2]			
$/Bag[3]	$/Ton	4 oz	5 oz	6 oz	7 oz	8 oz
$18	$720	$16	$20	$24	$28	$32
$20	$800	$18	$23	$27	$32	$36
$22	$880	$20	$25	$30	$35	$40
$24	$960	$22	$27	$32	$38	$43
$26	$1040	$23	$29	$35	$41	$47
$28	$1120	$25	$32	$38	$44	$50

1 = Cost per cow for 180 days.

2 = Ounces per cow per day.

3 = Based on a 50 lb net weight.

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STARTING WEANED CALVES ON FEED

Weaning is our opportunity as cattle producers to prepare calves for the next phase of the beef production cycle. Weaning represents a transition and how well we prepare calves for the transition is essential to the outcome.

The goal of weaning is to produce a healthy calf that is comfortable without its dam, readily consumes feed and has successfully acclimated to a new environment. One of the essential transitions a calf has to make during weaning is the transition from mother's milk and grazed forage to grazed forage and supplement, hay and supplement, or a ration containing novel feeds delivered in a bunk.

Feeding both cows and calves a small amount of the supplement or weaning ration prior to weaning, in the weaning pen or pasture can be used to help acclimate calves to both the feeds and the environment. Additionally, feed intake of weaned calves is often low (1 to 1.5% of bodyweight, dry basis) immediately following weaning.

Calves also have relatively high nutrient requirements. Thus, the weaning diet must be nutrient dense to meet the nutrient requirements of the calves at the expected intakes previously mentioned. Unfortunately, the dry feeds calves are often most familiar with (typically grass hays) are not necessarily nutrient dense. At the K-State Agriculture Research Center, Hays, KS, a feeding management protocol for weaning calves has been developed that works well for transitioning weaned calves to a total mixed ration.

The protocol is summarized in the table below. Essentially, high-quality grass hay and the weaning ration are offered each at 0.5% of the calves' current bodyweight, dry basis, on the day of weaning. The weaning ration is placed in the bottom of the bunk and the hay is placed on top. The amount of the weaning ration is steadily increased, while the amount of hay offered remains constant. In addition, on day 4 the hay is placed on the bottom of the bunk. Over a period of 7-10 days the dry intake of the calves is steadily increased and should reach approximately 2.2-2.5% of the calves bodyweight by 10-14 days following weaning.

Table 1. K-State ARC-Hays Weaning Feed Management Protocol*

Day	Weaning Diet	Hay	Feedstuff Order
1	0.5% Bodyweight	0.5% Bodyweight	Diet bottom/hay on top
2	0.7% Bodyweight	0.5% Bodyweight	Diet bottom/hay on top
3	0.9% Bodyweight	0.5% Bodyweight	Diet bottom/hay on top
4	1.1% Bodyweight	0.5% Bodyweight	Hay bottom/diet on top
5	1.3% Bodyweight	0.5% Bodyweight	Hay bottom/diet on top
6	1.5%Bodyweight	0.5% Bodyweight	Hay bottom/diet on top
7	1.8% Bodyweight		
8	---Increase diet by 0.25 to 0.50 lb per calf/day---		

*Remove any uneaten feedstuffs before feeding current days ration

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