

## Managing mineral nutrition of grazing beef cattle

### *Answers to some common questions on free-choice mineral supplementation*

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For many of us, the breeding season for spring-calving cows is coming to a close, while fall-calvers are rounding the corner toward their third trimester of pregnancy. I hope that by the time this article makes it to print, you've been fortunate enough to receive some rainfall throughout the spring and early summer, your grass is still fairly green, and your cattle have plenty of it to graze. If all of those are true, it should mean that your forages will meet the nutrient requirements of your cattle without any need for supplementation, right?

Well, not exactly. While it may be true for protein and energy, this is rarely the case for minerals. Regardless of what part of the state – or country for that matter – your cattle are grazing, there's a good chance that green, actively growing forages will not meet the mineral requirements of your cattle. And I use the phrase "good chance" hesitantly, because the odds are that they won't. There are probably forages somewhere that will meet mineral requirements without supplementation, but I've never seen an analysis that confirms that. Nor have I ever seen a group of grazing cattle that didn't give up some pretty darn important production traits by not being placed on a complementary mineral supplementation program. Not meeting the mineral requirements of cattle comes with consequences. Some of these include low reproductive performance, reduced growth, impaired immune function, issues with hoof health, and an increased severity of fescue toxicosis, to name a few. As a result, mineral supplementation should be viewed as an essential component of every grazing beef cattle producer's nutritional management program.

Without fail, the topic comes up at every meeting, speaking engagement, or conference that I attend. Read on to see the answers (A) and University of Tennessee recommendations (R) for four of the most commonly recurring questions (Q) that I receive on mineral supplementation.

*Q: Is trace-mineralized salt an effective free-choice mineral supplement for grazing beef cattle?*

A: Trace-mineralized salt may have a place in beef cattle production, but that isn't as a free-choice mineral supplement for grazing cattle. This is due to two main reasons: 1) the salt content, and 2) the extremely low level of trace minerals. These go hand-in-hand. The high salt content (often 90 to almost 100 percent salt) limits consumption substantially. Then when you factor in the extremely low level of trace minerals, such as copper, zinc, manganese, and selenium (to name a few), this becomes even more of an issue. The cattle are now only capable of consuming a very small amount of something that is fortified with a very low level minerals. Sure, it's cheap, and if they only consume a very small amount of it, that makes it even cheaper. But I use the word cheap instead of economical for a good reason, because cutting costs by

feeding trace-mineralized salt instead of a complete free-choice mineral supplement can cost you quite a bit in the long run.

**R: Provide cattle with year-round access to a complete free-choice mineral supplement rather than trace-mineralized salt.**

*Q: Can cattle adjust the amount of mineral supplement that they consume in order to meet their needs?*

A: To an extent. Cattle generally consume a greater amount of mineral supplement during times of the year when forages contain a lower mineral content, and when they are cycling a large amount of mineral through their body, such as throughout lactation. These changes are likely driven by demands for calcium and phosphorus, and consumption often reaches an upper limit due to the salt content of the supplement (more on this in the next question). But when provided with free-choice access to individual mineral ingredients in a buffet-style setting, cattle will not consume the necessary amounts of each to meet their requirements.

**R: Provide cattle with continuous access to a single complete free-choice mineral supplement rather than individual mineral ingredients.**

*Q: If cattle are consuming too much mineral supplement, should I just cut it with salt to reduce consumption?*

A: No, unless your nutritionist specifically recommends doing so. Salt is an effective intake limiter, which is already used as the main limiting agent in most free-choice mineral supplements. Adding extra salt to a pre-formulated mineral supplement can be problematic. If conditions require cattle to consume more mineral supplement than is expected in a situation where they need it, cutting it with salt may limit their ability to do so, which may lead to a deficiency. Additionally, adding salt completely changes the original formulation, which can also be problematic. Instead of cutting it with salt, first try re-locating the mineral feeder(s). If cattle are consuming more than the targeted amount of mineral supplement, move the feeder(s) farther away from high-traffic areas, such as waterers, paths, and other feeding areas. Conversely, if cattle are consuming less than the targeted amount, move the feeder(s) closer to these areas.

**R: Instead of adding salt to limit over-consumption of a free-choice mineral supplement, simply re-locate the mineral feeder. Achieving the targeted consumption may require more than one attempt. If this is not effective, then consult with your Extension personnel or nutritionist who can recommend the next best option.**

*Q: I'm happy with my current mineral supplement, but I can save a couple bucks per bag by going with a cheaper option. Should I make the change?*

A: Maybe. If your goal is only to cut costs without concern for the implications of doing so, sure. But if your goal is to cut costs without sacrificing performance, or to realize some cost savings that outweigh any resulting loss in performance, we need more information before making an informed recommendation. That information includes not only all of the information found on the tag or label, but also a mineral profile of your forages (which requires conducting some degree of forage analysis), and previous production records. Mineral supplementation is

not one-size-fits-all, and that information is necessary to make an informed decision when considering a change. But before even getting that far, it's important to evaluate the economics of doing so. Just for simplicity's sake, let's assume we have a situation where the total input cost for a cow/calf pair is \$600.00 per year, and you can save \$3.00 per 50-lb bag by making a change. If the average pair consumes 4 oz. of mineral per day, which is  $\frac{1}{4}$  of a lb, that equates to 91.25 pounds per year – so just shy of two 50-lb bags. The total savings per pair in that scenario would be roughly \$5.48 per year, which is less than 1 % of their annual input cost. If quality and mineral content of the two options is similar, then it seems like a wise move. But if you're considering changing to a lower quality mineral supplement, such as a supplement that is made up of mineral ingredients that are less available to the animal, or a supplement that is lower in mineral content, first consider this – how much would an increase in open cows cost you? What about an increase in the number of calves that need to be treated for pinkeye or respiratory disease?

**R: If considering changing mineral supplements, first consult with your Extension personnel or nutritionist to ensure that the change will not cost you more than it will save you.**