

## **Cattle management during drought: Supplemental Feeding**

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During times drought, hay is overpriced, scarce and close to unaffordable for producers. Various alternative feedstuffs can be more economical choice than hay. However, unfamiliarity with the various feedstuffs available, along with lack of experience feeding to nutrient requirements as opposed to feeding to appetite often lead producers into challenging situations. Cost of the feedstuffs along with digestive upsets from misuse of unfamiliar feeds will be the largest drain on productivity and profitability. Below are a series of recommendations for various scenarios where substantial feed resources are imported into a livestock operation.

### **First limiting nutrient during drought**

The first-limiting nutrient during drought is always energy. Producers will often want to talk about protein/mineral/vitamin shortages, yet the biggest concern is caloric intake. The goal in stretching tight pasture forage supplies during drought should be to maintain body condition and productivity in the cowherd. A significant hurdle for producers to overcome is the ability to feed cattle to meet nutrient requirements with restricted access to feed. The behavioral changes noted (acting hungry) often coerce producers into providing additional feed or utilizing bulky feeds that increase satiety while simultaneously not meeting nutrient requirements.

### **Stretching short hay supply**

Minimize hay waste by any means possible. My recommendation is to feed one day's worth of hay at a time to the livestock. Unroll bales to allow simultaneous access to feed and limit hay allowance to 1.0% of cow body weight per day, even if the quality is very poor (last year's hay stored outside). Another option to limit hay intake is to restrict the time cattle have access to hay. Cattle with as little as 4 hours access to hay and a supplement can be quite productive. Make sure that there are enough "seats at the table" for every cow to eat. I recommend a bale for every 8 mature cows. Aggressive cows will fight off others from getting to the hay ring when the time at the hay feeder is limited.

Pair restricted hay access with a 50:50 mix of grain and byproduct fed at a rate between 0.5 (pregnant) and 1.0% (lactating) of body weight per day and nutrient requirements should be met. There is NOT a need to get fancy in balancing the diet to all limiting nutrients. Make sure caloric and protein intake are adequate and worry about the rest later.

Situations like this make hay testing tremendously important, especially if you are unfamiliar with the hay purchased. The worst-case scenario is overpaying for hay that has no chance of meeting nutrient requirements. A drive down state highways gives the perception that producers are baling any and every forage resource available, regardless of quality. When hay producers put a singular focus on quantity to meet demand, quality (nutrient content) frequently suffers. Very poor quality forage is likely deficient in protein and possibly deficient in energy, depending on if cattle are growing, lactating or pregnant. When crude protein is below 7%, cows

will need 0.5-1.0 lbs of crude protein per day. One to two pounds of soybean meal (50% CP) will correct the deficiency, along with a host of other high-protein feeds.

### **Comparing costs of feedstuffs**

Hay is the closest analogue to pasture forage yet it is can be a wasteful feedstuff that is not nutrient-dense. A wise approach to cost effectively feeding through a drought is to compare feeds on a “**Dollars per lb of TDN**” basis. Example: 50% TDN hay that costs \$0.05 per pound (\$100 per ton). It is worth \$0.10 per lb of TDN. Make a comparison across several feeds and a “best deal” in your area can be easily identified. Nutritionists use TDN as a proxy for energy content. The average cow in second trimester of gestation requires approximately 13 lbs of TDN per day. A cow nursing a 60-day-old calf will require 20 lbs of TDN per day.

### **What to do if you are completely out of forage?**

Soy hulls, peanut hulls, rice hulls, cottonseed hulls and even sawdust can effectively serve as forage replacements in a drought ration. They should be included in a diet at 25-50% of the diet on a dry matter basis. They need to be paired with more nutrient dense feedstuffs. If the rest of the diet was made up of a blend of distillers grains (an energy & protein source), that would make a reasonable “complete feed” without having to pay for a branded product. Shoot for a diet with 10% crude protein and 55-60% TDN.

### **Limited resources for storing, mixing and distributing purchased feed**

Hand feeding 100 cows every bite of feed they get out of five gallon buckets is a daunting task for producers, yet they often are not equipped to store commodity feeds (meals or pellets), let alone deliver those feeds to cattle in an efficient manner. I have gotten a number of questions about utilizing self-feeders that are filled up infrequently. The biggest concern with self-feeders is limiting feed consumption. Cattle will not generally eat more than 0.1% of body weight per day in salt, and it is frequently used as a limiter. Refer to the publication “Limiting Feed Intake with Salt in Beef Cattle Diets” from the University of Nebraska (<http://extensionpublications.unl.edu/assets/pdf/g2046.pdf>) for more information. Feed companies promote their complete feeds, which utilize proprietary intake limiters. It has been my experience that they are no more effective than utilizing high-fiber feeds or salt as an intake limiter. The other concern with self-feeders is waste. Wildlife often learn quickly that free feed is available from self-feeders. My preference is to hand feed a supplement or diet daily but I acknowledge that producers have not have access to that level of time or labor. Work with their individual situations to come up with an ideal strategy. Perhaps culling is a better strategy for producers with limited labor than trying to feed through a drought.

### **Commodity Feeds vs. Branded Feeds**

Using individual commodities (corn, distiller’s grains, gluten pellets, soy hulls, and wheat middlings) as feedstuffs is the recommended practice for producers who will have to purchase the majority of nutrients off farm during times of drought. However, this recommendation is not without several considerations. These feedstuffs are not commonly available in small quantities, which requires storage bins or other arrangements. Buying small quantities of feeds from far

away takes the economic advantage away due to freight cost. Using commodities that are on farm already (grain crop) can work, if the producer has experience or information on utilizing high starch feeds in beef cattle diets.

Branded feed products marketed by feed companies are costly and not my preferred option, but they have a place. The feed companies add value to producers by formulating supplements and providing feeding management guidance. Feed tags will provide a recommended feeding rate. Some companies employ salespeople with considerable nutrition training. Professional nutritionists closely monitor these formulations. The company store keeps inventory on hand and makes it available in small quantities. To sum it up, feed companies add value to beef operations by selling convenience. It is my professional opinion that convenience is a luxury that cannot be afforded during times of drought, but there is value in convenience for the small producer who has five farms in three counties, a job in town, kids in sports, and various other time commitments.

### **Final Thoughts**

This article is not intended to be a comprehensive review of the technical aspects of meeting a beef cow's feed requirements during times of shortage. The goal is to strongly encourage producers to evaluate their situation and TAKE ACTION before cows lose significant nutrient reserves. Feeding through a drought is a great way to drain cash reserves in beef cattle operations but is a popular drought management practice. Utilizing commodity feeds instead of branded products is a great way to minimize cost. Identifying the least cost feed per unit of nutrient needed (\$ per lb of TDN) is another highly recommended strategy. Before utilizing unfamiliar feedstuffs, be sure to check in with your local extension livestock specialist or reach out to state specialists for guidance on proper use. The cost-effective solution to the lack of feed resources is out there if a producer is willing to be creative and to ask for help.