



Supplemental Feeding During Drought

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Droughts in Texas are frequent, recurring, and prone to last for consecutive years. Experienced ranchers in more arid environments probably have a pretty good rule of thumb that "following a normal year, there should be two years worth of forage left un-grazed, just in case." Unfortunately, this advice only goes so far, since sometimes droughts last several years and some forages do not always cure and last well from year to year.

Defining the Problem

The "art" of supplemental feeding during a drought undoubtedly lies in knowing when to start and when to stop feeding. That is, in knowing when to quit feeding, and start selling livestock when the animal's nutrient requirements can no longer be economically met. The first question a producer should ask is, "Can I afford to meet her nutrient requirements?"; rather than, "How much can I afford to spend on feed?" (and hope that what ever is in it meets her requirements). Newly developed technologies for forage and range diet analysis can help answer these questions. Contact your county Extension agent for more information on either forage sampling, or on predicting range diet quality from animal fecal analysis.

When to Supplement

Economical supplementation goes hand-in-hand with proper stocking rate, since the objective of any supplemental feed program is to augment a forage based diet. Usually this means adjusting stock numbers and supplementing protein for improved diet quality. Energy may be supplemented for short periods of time (dietary energy is closely related to forage quantity). A 1000 lb. cow requires 20-30 lbs. of dry forage, or 2 to 3 percent of her body weight, per day. Typically on native range, forage dry matter must come from the pasture, since it is usually uneconomical to feed hay. Higher density energy supplements may help make up for short grass, but remember that those that are high in grains must be fed every day to keep acidosis problems in check, and also to reduce the inhibitory effects that grain may have on the animal's ability to digest pasture forage. Again, when forage is extremely short, supplementation of large quantities of energy in any form for extended periods of time is usually uneconomical.

What to Supplement

When evaluating supplements, remember that there are no "magic bullets". Animals will perform so long as their supplement compensates for what nutrients are limiting in their diet. Protein is usually the first limiting nutrient in dormant forage. In fact, a dry cow or ewe requires a minimum of 7% crude protein in her diet, just to keep the digestive system microbes alive and working on forage digestion. Protein supplementation can actually stimulate forage intake.

Nutrient content and price per lb. of nutrient(s) in the supplement are the most important things to evaluate. For example, to calculate the cost per lb. of crude protein, a 38% cube provides 760 lbs. of crude protein per ton of bulk feed. At \$280 per ton, it costs \$0.37 to provide a pound of protein. A 20% cube provides 400 lbs. of actual protein per ton of bulk feed. At \$210 per ton it costs \$0.53 to provide a pound of crude protein. If protein were the only concern, then the 38% cube would be the better buy. However, if grass is not only dormant, but also in short supply, then the 20 % cube, fed at twice the rate, would probably be a more complete feed because it would provide some extra energy as well.

The form of supplement, be it block, cube, lick, meal, etc. is unimportant as long as consumption of limiting nutrients is adequate. If animal supplemental requirements are particularly high, some types of self-fed supplements may not allow for this to occur.

Molasses is often used to stretch forage supplies, but just like grain supplements, molasses will require that a high quality protein supplement accompany it. Molasses is handy because while it is an energy feed, it can be self-fed; eliminating the need for daily feeding. Be cautious. Many pre-formulated molasses supplements will contain

high levels of non-protein nitrogen (NPN) such as urea, for a primary "protein" source. High NPN supplements are not drought supplements. If they are used, it should be in situations such as this: forage is abundant, but dormant; dietary protein requirements are low (dry mature females); and protein deficiency is only slight.

Summary

In summary, here are a few feed management tips: Sort and feed livestock by age, production status (growing vs mature, and lactating vs. non-lactating), and body condition. If stocking rate needs to be reduced, begin by culling the open cows, or dry spring and summer ewes. If numbers need to be reduced further, follow by culling lactating females in poor body condition (they probably won't re-breed anyway).

When purchasing feed, forward contracting and bulk storage are ways to trim a few dollars. Late summer is typically when feedstuffs are cheapest. Reduce feeding frequency. Supplements high in natural protein may be fed as infrequently as twice, or, depending on level of protein deficiency, even once per week. Use a good 1:1 calcium to phosphorus mineral. Inject vitamin A or provide it in frequently fed supplements if it has been more than 3 to 4 months since there has been any green forage.

Supplementation strategies in any number of situations is often just a best guess unless something is known about the diet quality in relation to animal requirements. By using some of the new technologies to define pasture diet quality, the guess-work is largely removed. Knowing diet quality lets you know what type of supplementation will be necessary in order to meet the animal's nutrient requirements. Livestock and feed prices will tell you if that answer is economically feasible.

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