



Ridin' Herd

► by **Rick Rasby**, Extension beef specialist, University of Nebraska

Drought and forage quality

This spring, it seems, has been feast or famine in regard to moisture. There were areas that had lots of moisture and widespread flooding. Some of the flooding was a result of above-average snowfall in the mountains, and the snowmelt added to the flooding. Then there were areas where there was hardly enough moisture to start any spring grass growth. Trying to feed the whole herd through a drought with purchased feeds can be tough financially, especially if drought conditions are widespread and last for more than one growing season. Forage seems to be different in quality when grown in drought conditions compared to more normal conditions.

Livestock inventory

Get a good count on all beef cattle. Keep only females that are pregnant or that have a calf at side. Pregnancy-check females as early as possible to identify cows that are not pregnant. In drought conditions, only retain and provide feed for productive females.

If there is a need to depopulate the cow herd, individual production records come in handy to identify low-producing females. Consider culling late-calving cows, older cows and less-productive cows.

Consider culling females that are in the bottom 15%-20% of production for two to three years in succession. These females may be telling you that they don't "fit" your resources or management for some reason. If there is a time when individual records are valuable in management decisions, this is one.

Depopulate early to avoid selling when prices are low because everyone else is selling. Cull cow prices this year appear to continue to be strong because of the smaller cow inventory. During drought, forage production is less and price is high because of the increase in demand.

Table 1: Crude protein content of cattle diets on Sandhills range

Date	Avg.	2002*
June 7	12.3	12.7
July 16	11.0	8.2
July 30	10.3	5.9
Aug. 20	9.3	5.6
Sept. 5	8.6	7.5
Oct. 14	6.7	5.9

*2002 drought year.

Early weaning

We recently addressed in this column the pros and cons of weaning calves early. As mentioned, early-weaned calves, if sold right off the cow, usually don't generate enough dollars to cover annual cow costs.

There is a body of data that indicates early-weaned calves exposed to high-energy diets have a high propensity to grade USDA Choice or better. The challenge is finding economical feeds, especially forages, to feed them in drought areas.

Data would suggest that for every 2.5 days that a calf is weaned from the dam, there is one more day of grazing available for the cow. Data at the University of Nebraska indicate 250- to 350-pound (lb.) calves will consume about 5 lb. of grass daily on a dry-matter basis.

There is also a saving in forage intake between a lactating and nonlactating female. Bred cows can get by on minimal forage if not suckling calves. This management strategy may allow for the cow herd to remain on the existing grazed forage base.

Table 2: TDN content of cattle diets on Sandhills range

Date	Avg.	2002*
June 7	69	53
July 16	63	49
July 30	60	50
Aug. 20	57	49
Sept. 5	56	48
Oct. 14	54	48

*2002 drought year.

Forage quality

Tables 1 and 2 document that there are quality changes in forages during drought conditions, at least for Sandhills range. 2002 was a drought year.

Table 1 shows protein content in the diet of cattle grazing range, and Table 2 is the energy content of the diet. If this forage had

been harvested as hay in 2002, both crude protein (CP) and total digestible nutrients (TDN) would have been much different than in more normal years.

Crude protein content in the diet decreased during the growing season in both the "normal" year and in 2002 (drought year), as would be expected. However, the decrease in CP content during the drought year was much greater.

Harvested forages are used as an energy source in cow diets (Table 2). The same pattern was observed in TDN (energy), comparing 2002 to more normal years.

As indicated earlier, the protein and energy numbers represent diets that cows were selecting during grazing and, therefore, would be greater than what would have been seen if the range were harvested as hay. This information suggests it is critical to sample and test hay harvested in drought conditions. Thinking that hay harvested in drought conditions would feed the same as that harvested in more normal conditions is not correct. At a minimum, test forages for moisture, percent CP, and TDN (energy).

Other options would include planting oats as early as possible for grazing or hay. Oats use moisture very efficiently to produce forage.

Another option is to plant summer annual forage grasses like Sudan grass and millets. These plants are drought-tolerant, but will need some summer/fall moisture for economical growth.

Always test summer annuals for nitrates. If nitrates are high, mix with low-nitrate feeds and adapt cows.

Some producers might consider grazing standing corn, especially dryland corn with depressed yields. A corn field provides high carrying capacity and quality for a "salvage"



operation, but cross-fence and introduce cattle slowly to avoid digestive problems.

Corn has the potential to be high in nitrates, especially in the first 6 to 8 inches of the stalk. Avoid this when grazing or harvesting as hay. In a grazing situation, don't force cows where they have to consume the lower part of the stalks.

Drought-damaged corn can be harvested as silage and used for feed for the cow herd. During the ensiling process, any nitrates will be reduced by 40%-60%.

Be careful if drought-damaged summer annuals or a corn field is green-chopped and fed. If these feeds are high in nitrates, adapt cattle (add some dry forage if possible), observe often and feed fresh. If the green-chopped forage is high in nitrates and it is chopped one day and fed the next, nitrates are converted to nitrites in the pile, and nitrites are more toxic to cattle than nitrates.

In less extensive cow-calf operations, to extend existing pasture consider feeding alfalfa hay because it provides some protein and energy, but also fills the rumen and

reduces pasture intake. Basically, alfalfa is being substituted for pasture.

If pasture is available and the goal is to extend the pasture, feed 4 lb. to 6 lb. of alfalfa per head per day. Alfalfa could be fed three times a week to save on fuel and labor. Grain co-products mixed with dry forage don't appear to reduce digestibility of forages, so feeding them in a diet that is primarily forage will not have any negative associative effects.

Consider planning for fall and winter feeding options. The forage supply will be limited and expensive. In some areas there will be a corn crop because it is irrigated. Corn residue is a good feed resource for gestating beef cows. Determine if there are opportunities in your area.

Distillers' grains that are a byproduct of the ethanol industry are usually priced lower in the summer compared to winter and spring. Distillers' grains (wet and modified) and gluten feed can be stored in bunkers or ag bags.

Distillers' grains are good sources of protein, energy and phosphorus. Wet distillers' (35% dry matter, 65% water) can

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be mixed with forages and stored. You can find information on this storage method by visiting http://beef.unl.edu/byprodfeeds/manual_04_00.shtml.

Consider adding calcium (Ca) to the diet because of the high phosphorus content of distillers' grains. Mix the diet uniformly, pay attention to sulfur content, and make sure there is plenty of bunk space so all cows have equal opportunity to eat.

Final thought

Drought is tough on livestock and livestock producers. Records will be critical in drought situations, both from a cow culling and pasture management standpoint.

Forages grown during a drought appear to be different in quality compared to those grown in more normal years; therefore, sample and test. Be creative in designing feeding alternatives.



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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.