

Managing the Consequences of Drought

Reducing Nutrient Demand, Optimizing Feed Use, and Reducing Management Expenses

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Critical Prerequisites

1. Cows (including heifers) have been culled to remove those with faults and those with limited immediate production potential.
2. Some thought has been given to the economics of retaining the “nucleus” herd versus complete cattle liquidation.
3. A range/pasture condition assessment has been performed to determine forage availability.
4. Moving the cows to leased grazing or a confinement feeding operation is not an option.

Reducing Nutrient Demand

It goes without saying that, during drought, both the forage resource and livestock performance suffer. Therefore, reduction of the “wear and tear” on both should be a drought management consideration. If forage availability across the ranch is less than adequate to meet grazing animal needs, consider concentration of the cattle in one pasture or trap. By doing so, stockmen can:

1. Minimize the activity (travel) of cattle. The energy required for maintenance is significantly affected by activity as indicated below.

Table 1. Effect of Activity on Maintenance Energy Requirement

Location	NEm, Mcal/day*
Large Pasture; Low Forage Availability	10.6
Confined	8.9
Energy Saved by confinement	1.7 (16%)

*1150 lb F1 cow, middle 1/3 gestation. Data generated with NUTBAL, 1996.

The preferred option would be to put cows in a small pasture or trap; the least productive area should be considered so as to minimize damage to the forage resource in the more productive pastures. If small pastures/traps are not available, selected water troughs can be turned off or ponds fenced off and thereby concentrate animals near available water. *Caution: Concentration of animals (including wildlife) around water will increase the demand placed on that water supply and can result in increased disease transmission from wildlife to livestock.* In addition, as surface water supplies decline, be conscious of water quality and temperature. Regardless of where cattle are pastured, shade and protection from inclement weather should be provided. Heat or cold stress can increase daily maintenance energy requirements 20-50% depending on severity (CSIRO, 1990).

2. Protect the long term productivity of the forage resource. Complete removal of standing biomass: a) reduces the ability of the soil to capture rainfall when it comes and b) reduces the ability of the grass to respond when soil moisture is available. Grasses often attempt to respond to small, seemingly insignificant rainfall events - if livestock are there to nip off the green growth, plant health and root vitality are impacted. Concentration of wildlife as a result of water management (previously mentioned) could help to alleviate the grazing pressure applied by wildlife on grass regrowth.

Optimizing Purchased Feed Use

1. Sort Cows by Expected Nutrient Requirements.

As previously mentioned, sorting cows by physiological status can result in a significant improvement in efficiency of feed and hay use. To demonstrate the physiological status x nutrient requirement interaction, a 5 year old, 1150 lb F1 cow is used as an example in

Table 2.

Table 2. Nutrient Requirement vs Physiological

Table 2. Nutrient Requirement vs. Physiological Status - FI Cow, 1150 lb.

	Crude Protein, lb.	Energie (NE _m), Mcal
A. w/ 60 day old calf at side	2.14	13.5
B. 30 days postweaning	1.34	8.6
Difference (A-B)	0.8 (60 %)	4.9 (57%)

Data produced by NRC Model Application, Nutrient Requirements of Beef Cattle, 7th Rrevised Edition, 1996.

Obviously, attempting to feed these two cows in the same group will probably result in a) an over-fed dry cow (inefficient use of purchased feed/hay) or, b) an under-fed lactating cow (accelerated body condition loss and/or restricted milk production, resulting in depressed calf growth rate).

2. Purchase Hay and Supplement to Meet Requirements or Confine and Feed a Complete High Energy Ration. If cattle are left on pasture and forage is severely limited, purchase hay first and then supplement the hay to meet performance goals. If equipment is available to handle round bales, labor cost is minimized when compared to feeding small square bales. Free-choice access to hay frequently results in excessive hay consumption. Consider limiting access to hay by a) unrolling round bales so all cows can eat at the same time or b) restricting access to x hours per day. If offered intact, round bales should always be fed in a hay ring. Otherwise, significant amounts of hay will be wasted.

Cooperative purchasing of hay and/or supplements could result in substantial savings, especially when “non-typical” feedstuffs are considered. If facilities (pens, bunk space, bulk feed storage/handling equipment) are available and a source of high energy, feedlot-type rations is close-by, consider feeding cows. Seldom will sacked feeds be

economically feasible. (For additional information, see paper by D. Herd).

Reducing Management Expense

Drought is not only mentally taxing but can be physically exhausting as well. If accompanied by extreme temperatures (i.e summer 1998), any efforts which reduce the time and labor involved in cattle management will prove rewarding. Concentration of livestock, as suggested above, will:

- decrease time and personnel requirements for feeding, evaluating livestock and checking water,
- decrease vehicle expense (fuel, tires, maintenance)
- perhaps reduce the number of water delivery systems (pumps, windmills) to be maintained.

Likewise, the least essential, most marketable group of cattle should be kept closest to a shipping facility. In the event liquidation of additional cattle is imperative, the next to go are close at hand and can be penned and loaded with fewer personnel and less stress on the animals.

A positive attitude -drought increases its maintenance cost yet, the cattleman’s survival depends on it.

Every day that passes brings the next good rain one day closer.

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