



Cattle Producer's Handbook

Nutritional Requirement of the Beef Cow During Drought

John A. Paterson

Extension Beef Specialist, Montana State University, Bozeman

During periods of extended drought, the rancher is faced with management decisions on the best ways to provide adequate nutrition for the cow herd. These decisions range from doing nothing all the way to complete dispersal of the cow herd.

Consequences of Inadequate Nutrition for the Cow

Producers generally have two options for meeting the nutrient requirements of cattle on drought-affected pastures and ranges. The first is to provide supplemental feed to ensure the cow herd has adequate energy, protein, vitamins, and minerals. The second is to reduce the nutrient requirements of the cow to a point where they can be met with available forage.

Table 1 summarizes several of the consequences of inadequate intakes of energy, protein, vitamins, and minerals by beef cattle (Bearden and Fuquay 1992). The data show that reproduction is impacted the most by these deficiencies. A rancher should keep in mind the following concepts with regard to cow reproductive efficiency during periods of drought:

- Fertility of cows may decline when their body condition score (BSC) drops below a 4; especially at time of calving and when they go into the breeding season in poor condition. In the absence of sufficient nutrients, particularly energy, cows lose considerable weight. When such weight losses occur, milk production decreases and reproductive activity may cease. The end result is lightweight calves and open cows. To prevent such undesirable effects, cows either must be provided sufficient nutrients to avoid weight losses and maintain production requirements or they must be relieved totally or partially from these stressors.

Table 1. Influence of inadequate and excessive dietary nutrient intake on reproduction in beef cattle (Bearden and Fuquay 1992).

Nutrient consumption	Reproductive consequence
Inadequate energy intake	Delayed puberty, suppressed estrus and ovulation, suppressed libido and spermatozoa production
Inadequate protein intake	Suppressed estrus, low conception, fetal resorption, premature parturition, weak offspring
Vitamin A deficiency	Impaired spermatogenesis, anestrus, low conception, abortion, weak offspring, retained placentae
Phosphorus deficiency	Anestrus, irregular estrus
Selenium deficiency	Retained placenta
Copper deficiency	Depressed reproduction, impaired immune system, impaired ovarian function
Zinc deficiency	Reduced spermatogenesis

- Early weaning of calves is one option that allows cows to rebuild body reserves and rebreed the next year.
- Money and diminishing feed reserves are too valuable to waste on cows that are unproductive, not pregnant, or are unsound. These animals are candidates for culling at any time and especially during drought conditions.