

Cattle Producer's Handbook

Supplementation During Drought

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Breeding failure is the most important adverse consequence to the cowherd during drought. This is due to reduced forage quality and availability, resulting in nutritional stress. As forage quality decreases, lignin and other more slowly digestible components of forage increase. This lower quality forage remains longer in the rumen before exiting, which reduces forage intake. Thus, the cow may be unable to eat enough forage to maintain body weight (Fig. 1).

During early to mid-lactation, a beef cow will consume from 2.5 to 3.0 percent of her body weight in forage daily. During drought, stocking rates may be adjusted to increase forage for each animal unit, but forage quality may drop, thereby preventing adequate digestible nutrient intake. As forage digestibility drops, passage rate of undigested dry matter decreases and forage intake declines (Table 1).

In Montana, when forage digestibility was 61 percent, lactating cattle consumed 2.2 to 2.8 percent of body weight in forage. During a drought year, forage digestibility dropped to 43 percent and the same lactating cattle consumed 1.2 to 1.3 percent of body weight in forage

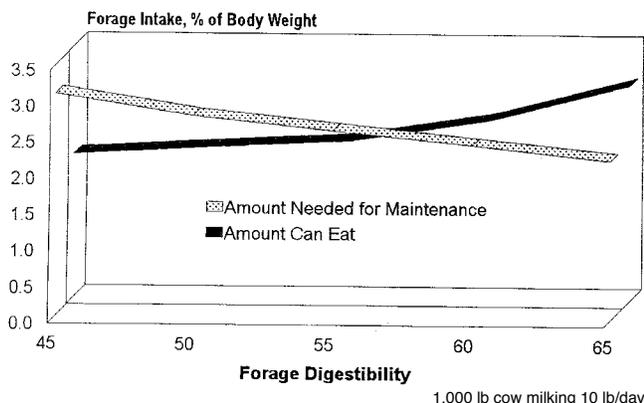


Fig. 1. Forage intake of a lactating range cow.

Table 1. Forage intake of lactating cattle at different forage digestibilities.

Forage digestibility or TDN, %	Amount required to eat to meet maintenance requirements, % of body weight	Amount can eat at the forage digestibility listed, % of body weight ¹
43	3.2	1.2 to 1.3
45	3.1	1.7 to 2.0
50	2.8	1.9 to 2.1
55	2.6	1.7 to 2.1
58	2.4	1.9 to 2.5
60	2.3	2.0 to 2.5
62	2.3	2.3 to 2.8
64	2.2	2.6 to 3.2
Greater than 64		2.6 to 3.2

¹Research from various sources including Kronberg et al. 1986, Wagner et al. 1986, Havstad and Doornbos 1987, and Sprinkle 1992.

(Havstad and Doornbos 1987). Forage intake at this level is inadequate to furnish the necessary nutrients for milk production and maintenance of cow body condition. To survive drought and maintain acceptable rebreeding percentages and economic viability, the cowherd should be managed for acceptable body condition (BCS of 4-5).

Forage should also be monitored for total production and quality to determine if the cow's nutritional requirements are being met. It may be a cost effective practice to analyze forage or fecal samples for total digestible nutrients (TDN) and crude protein during dormancy or drought and match supplementation strategies to the nutritional deficits in the forage. Your local Cooperative Extension office can provide addresses of laboratories that offer this service.