

# Supplementing Cattle on Drought-affected Pastures and Ranges

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Cattle producers generally have two main 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.

Producers may consider renting additional pastures or moving cattle to areas where pastures are in better condition as an alternative to supplementation. In addition, producers may consider selling all or a portion of the herd to reduce stocking rates sufficiently for pasture conditions. Cow-calf/yearling producers may consider removing yearlings from drought affected pastures and placing them directly in the feedyard to reduce stock numbers.

Available crop residues such as small grain straw, corn stover, and other byproducts of crop production represent important methods of stretching tight feed supplies during drought conditions. (See related information on ammoniation of low quality roughages at [ammoniationoflowquality](#).)

Drought-affected pastures and native range generally do not produce adequate forage to maintain "normal" stocking rates, so producers must provide supplemental energy to meet the needs of the cow herd. Pastures and native range that are dormant due to drought conditions may be low in vitamin A, phosphorus, and protein. Meeting the need for these nutrients is important if cow herd productivity is to be maintained.

Reductions in stocking rate will benefit range plants by reducing stress and will also provide more forage for the remaining cattle. When stocking rates are reduced in accordance with production, only small effects on weaning weight may be noted. If stocking rates are not reduced, supplemental feeding is necessary to maintain herd productivity and alleviate grazing pressure.

## Providing Supplemental Feeds During a Drought

**Minerals.** Provide the same salt and mineral mixture during drought as you would during normal conditions. However, during drought phosphorus supplementation is critical. A mixture of 50 percent trace mineralized salt and 50 percent dicalcium phosphate supplied free choice to the cow herd will meet the phosphorus requirement. The salt mixture should be placed close to stock watering locations.

**Vitamin A.** Lack of vitamin A may be a problem during fall and winter for cows that grazed drought-affected pastures during summer. Vitamin A is lacking in forages during

drought and hay produced from drought-affected forages. Cows should receive vitamin A and D booster shots approximately 30 days prior to calving and their calves should receive vitamin A and D at birth.

**Protein.** Pastures dormant due to drought conditions may be deficient in protein. If these conditions occur during the breeding season, reductions in pregnancy rate can occur. Provide dry cows with approximately 0.5 to 0.75 pounds of supplemental crude protein and lactating cows with 0.9 to 1.2 pounds of supplemental crude protein per day. This can be fed as approximately 1 to 1.5 pounds of soybean meal for dry cows and 2 to 2.5 pounds of soybean meal for lactating cows. Protein supplementation may be necessary for optimum breeding rates during drought conditions. Alfalfa hay, sunflower meal, safflower meal, as well as other protein meals may also be used as protein supplements.

**Energy.** Since forage production is generally limited during a drought, energy may be the most limiting nutrient for grazing cattle. Several options are available for supplying energy to cattle on drought-stressed pasture. Hay, grain, and crop processing byproducts can all be used to supply energy to grazing cattle. Low quality forages can be ammoniated to increase digestibility and protein content.

Grain supplementation on pasture can result in a "catch 22". Excess supplemental grain can reduce forage digestibility, resulting in less energy available to the animal from available forage. As a general rule of thumb, up to 0.2 percent of body weight of supplemental grain per head per day will not result in large decreases in forage digestibility. For example, a 1,200 pound cow could receive 2.4 pounds of grain per day without drastically reducing forage digestibility. For some grains, processing may be necessary for optimum use by cattle. Corn and oats can be fed whole but may be better utilized if coarsely rolled before feeding. Barley and wheat should be coarsely rolled. It is desirable to crack the hull of barley so that rumen microorganisms and digestive enzymes can access starch in the kernel. Avoid fine grinding and rolling which results in excess fines and dust. These can result in increased incidence of acidosis and founder. In addition, extremely dusty supplements are unpalatable.

Grain processing coproducts, such as wheat midds, soyhulls, barley malt sprouts, beet pulp, and corn gluten feed, which contain highly digestible fiber provide energy while alleviating much of the negative impact that grain supplementation has on fiber digestibility. In addition, these byproducts provide protein which may also be limiting in drought-stressed forages.

**Limiting Supplement Intake Using Salt.** Intake of self-fed grain or protein supplements can be limited using salt. As a general rule of thumb, cattle will consume up to 0.1 percent of body weight in salt. Therefore, a 1,200 pound cow would consume 1.2 pounds of salt mixed in a grain or protein supplement. When using salt to limit intake, the percentage of salt added to the concentrate depends on the desired intake of concentrate.

Percent salt in the supplement = [pounds of salt/(pounds of concentrate+pounds of salt)] X 100.

For example, to feed three pounds of salt-limited soybean meal supplement, use approximately 35 percent salt in the mixture. Salt intake would be approximately 1.1 pounds per day and soybean meal intake would be 1.9 pound per day. The salt mix used to limit intake should be 25 percent of the trace mineralized salt/dicalcium phosphate blend described above and 75 percent plain salt. (See Limiting Food Intake with Salt, GPE-1950; in the Beef Cattle Handbook).

Be sure to monitor intake closely when feeding self limiting supplements, particularly grain based supplements, because founder and acidosis can occur. Adapt the cattle to the desired level of concentrate before introducing salt into the blend. Provide adequate water when using salt limiting supplements. Water intake will be higher than normal when feeding salt limited supplements. Salt can also corrode metal feeders.

Drylot Feeding. If pasture conditions are extremely poor, producers may consider feeding cows in drylot. This may be more cost effective than supplementation if large amounts of supplement must be transported and fed to cows daily. In addition, it may allow pastures a much needed rest period to begin recovering from the drought.

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