

## Drought effects livestock mineral needs

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ALEXANDRIA, Va. — Drought conditions appear periodically throughout the world. In some areas, low rainfall, results in forage that is green for a short period and then becomes dry the remainder of the time until consumed or until the next rainfall period. Under drought conditions the forage available remains dry.

Dry forages are low in protein, minerals and other nutrients. Moreover, the nutrients in the forage are low in availability to the animal. This is because dry, mature forage contains cell walls with a higher amount of cellulose

and lignin which causes the nutrients inside the cell walls to be less available. Therefore, nutrient utilization is low in dry, mature forages that are encountered in drought conditions.

During drought periods, many livestock producers pay less attention to feeding minerals to their grazing animals because they begin cutting corners, since they face a cost-price squeeze situation. In many instances they need to buy extra hay or other energy sources. In others, they need to supply a source of protein to balance out the low level of protein in the forage available for grazing.

The cost of minerals, however, amounts to only approximately 1 percent to 3 percent of the total

cost of animal production. Therefore, trying to save money by eliminating or cutting down on mineral supplementation is false economy. For every dollar spent on minerals, many more are returned to the producer.

Mineral supplements that include calcium, phosphorus, salt and the trace minerals should continue to be self-fed during drought situations. They are needed to help the animal digest the low quality forages available. Some of the minerals are needed by the microorganisms in the rumen in order for them to adequately digest the dry forage.

For example, experimental data from several research scientists indicate that phosphorus is

required by rumen microorganisms for cellulose digestion or cell growth. This makes it doubly important since cellulose digestion by the microorganisms is very necessary with drought forages. The ruminant animal does not produce cellulose splitting enzymes. Only the microorganisms in the rumen can break down some of the cellulose in the dry forage.

A lack of phosphorus results in poor growth as well as poor reproduction. The calf crop can be increased by as much as 50 percent and sometimes more, in areas where phosphorus is low. Calcium, along with phosphorus, is needed for proper bone and teeth formation.

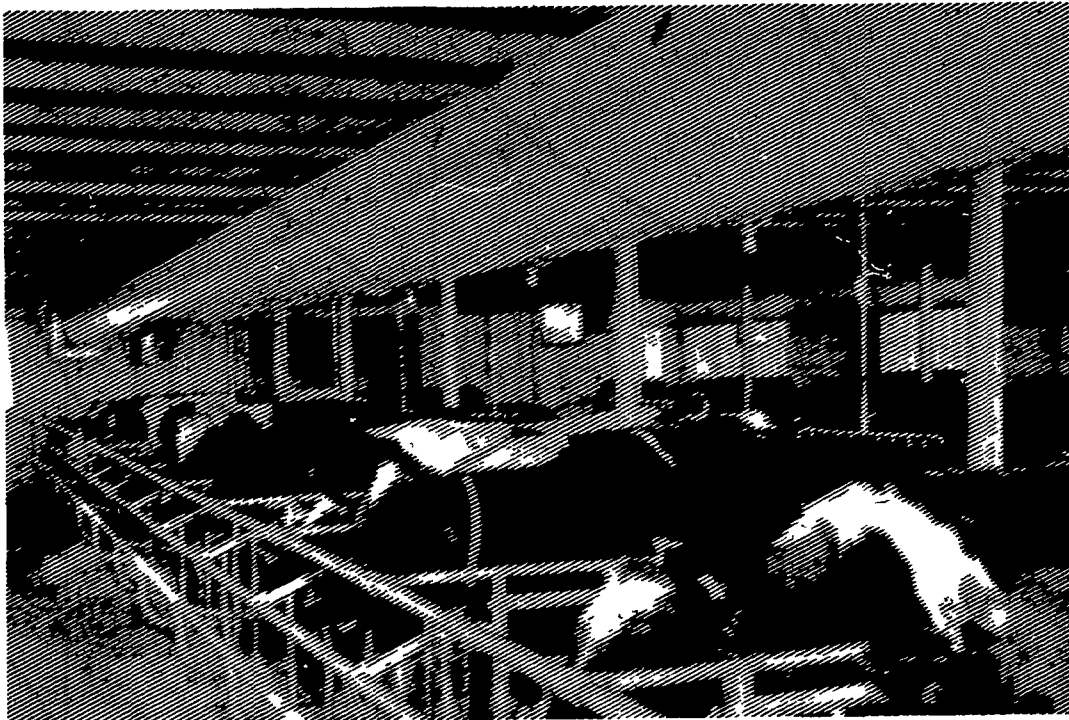
A lack of salt causes a loss of appetite, decreases feed intake, causes weight loss, decreases milk production and causes fatigue, exhaustion and eventually death. Trace minerals are also very important and the lack of any of the seven (copper, cobalt, iron, manganese, zinc, iodine and selenium) will decrease animal productivity and efficiency. Recent studies indicate that potassium is very low in dry forages. Supplementation is increased

when protein supplements contain a substantial level of urea. All of these minerals need consideration as a producer develops feeding programs for ruminants in drought or dry forage situations.

Minerals can be supplied in protein blocks, molasses or liquid supplements. Even so, it is a good idea also to self-feed minerals in case the animals need more than is contained in the energy or protein sources. Moreover, the energy or protein sources are sometimes fed only in limited quantities or for short periods of time, and thus mineral supplementation becomes even more important.



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