

# Vitamin and mineral additives for sheep and cattle in drought

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**Minerals**

Generally, only two minerals, calcium and sodium, are needed as additional supplements during drought feeding of sheep and cattle. Deficiency in other minerals is unlikely as a result of drought feeding.

**Calcium**

Diets consisting mainly of cereal grain are generally calcium deficient. To prevent calcium deficiency, add finely ground agricultural limestone (calcium carbonate) to cereal grain at 1.5 per cent weight of the ration. That is, for every 100 kg of grain, add 1.5 kg of limestone. Spread the lime onto the grain when filling the feed-out bin. Lime is not lost when feeding-out, as the fine particles stick to the grain.

Do **not** use builders lime, burnt lime or slaked lime.

**Sodium**

Most grains are deficient in sodium. To prevent a sodium deficiency, add 0.5 per cent of coarse salt to grain diets.

Water can often be a source of sodium. Additional amounts of salt are not needed if the water has high salt levels.

**Mineral blocks**

Blocks, particularly the 'shotgun' types, can be inefficient in the correction of mineral deficiencies.

Block intake varies considerably in a mob, from nil intake to four times the average.

Because most minerals are toxic if they are ingested in excessive levels, block manufacturers restrict the mineral concentration so that animals consuming excessive amounts of the block are not at risk. Mineral blocks will therefore not correct a deficiency across the whole mob. Treat specific mineral deficiencies, namely selenium, copper, cobalt and magnesium deficiencies, on a 'per animal' or 'mob' basis.

If a mineral deficiency is suspected, seek advice from your local livestock officer or veterinarian.

**Vitamins**

During drought feeding, the most likely vitamin deficiencies will be in vitamins A and E.

**Vitamin A**

Vitamin A is obtained from green pasture, hay with good green colour, and yellow maize. Even a short green pick will supply adequate quantities of the vitamin.

Vitamin A is stored in the liver. Young sheep usually experience deficiencies when they have been without green pasture, green hay or yellow maize for 6 months, and adult sheep will be deficient after 12 months. Cattle have lower stores of Vitamin A, and all classes of cattle will be deficient in Vitamin A after only 3 months without green pasture.

Symptoms of deficiencies are night blindness, eye discharges, and ill-thrift. Treat stock with vitamin A if lambs or cattle have been off sources of the vitamin for 3–4 months and if adult sheep have been off sources for 9–10 months.

A single injection protects for about 3 months in cattle and a single drench protects for about 6 months in sheep.



## Vitamin E

Grains and hays are fair to good sources of vitamin E, although considerable variation does occur.

There is a relationship between vitamin E and selenium deficiencies. Vitamin E deficiency induces symptoms similar to those of selenium deficiency, that is, stillborn young, and older lambs and calves that suffer from a stiff, stilted gait, lameness, and arch back.

If you suspect a deficiency, seek veterinary advice for confirmation and treatment. Treat the deficiency with a water-soluble drench for sheep.

Vitamin A and E deficiencies in cattle are best treated by an intramuscular injection of Vitamin A, D and E, which is sold in the one treatment.

## Further information

Primefact 327 *Animal welfare in drought*

## Acknowledgment

This Primefact replaces Agnote DAI-249 which was based on information contained in an earlier publication, Agnote DAI-170 *Feed additives for sheep and cattle in drought*, written by Ed Clayton, (Former Livestock Officer), Ian Blackwood (Livestock Officer - Beef Cattle) and Bill McKiernan (Technical Specialist Beef Grazing Systems).

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2006). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.

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