

Feed supplements for **dairy cows**

by Lynette Louw

(Photograph by Liza Burger)

A dairy cow feeds for two reasons: To produce milk and to maintain her body reserves. If fed more than she needs, the cow will become too fat and encounter health problems. If she is underfed, the cow will produce less milk and will lose body condition.

Dairy cattle need about 21 minerals in order for them to produce healthy and balanced milk. These minerals are normally found in their feed. Minerals are required only in small amounts. Over-feeding your cattle by unnecessarily adding commercial supplements to their feed, may be over-doing it and could end up harming the animal.

The following are some broad guidelines regarding some of the vitamins and minerals that dairy cows need to produce optimally. Ask your feed consultant or veterinarian for more information on feed supplements.

Vitamins

Cows that fail to become pregnant, have a shorter gestation period or show a high percentage of retained placentae and abortions, may be experiencing a lack of vitamin A. Cows with a vitamin A deficiency usually have dull, watery eyes. Their eyes will regain their form within a day or two, if the cow is injected with vitamin A.

Green feeds are rich in vitamin C, while carotene and vitamin E are present in most feeds. Vitamin deficiencies in cattle are rare.

Calcium and phosphorus

Low calcium levels are often found during early lactation in high-producing cows. A calcium or phosphorus deficiency can cause a drop in milk yield, slowed growth, lack of appetite and poor conception. A calf that lacks calcium, can develop rickets which can lead to deformities.

Older cows can develop osteomalacia, which causes bones to break. Milk fever is also the result of a sudden drop in calcium levels. Cows that suffer from milk fever will probably have to be injected with calcium, in order to stabilise their calcium levels.

Another disease associated with low phosphorus levels, is botulism. This disease starts when animals that lack phosphorus, start to chew on bones infected by the bacterium.

Magnesium

This mineral is a very important component of bone formation and works with calcium, phosphorus and vitamin D to form bones. A magnesium deficiency in calves can cause skin lesions and convulsions. Older cows can develop grass tetany, which is caused by pasture which has been fertilised by ammonium sulphate.

Sodium, chlorine and salt

Sodium and chlorine are contained in the salt fed to animals. A salt deficiency can cause rapid weight loss, a drop in milk production and lack of appetite. A lack of salt is common during very hot weather, as the animal loses salt through perspiration (sweat).

Salt supplements are usually needed and you can feed your cows extra salt (licks) especially in summer.

Other minerals

- Other important minerals include potassium, which is usually found in high enough levels in grass. Some pastures, such as kikuyu, may contain too high levels.
- Sulphur is important for the proper development and maintenance of the microflora in the rumen. Sulphur deficiencies are rare.
- Iodine is a trace element which is important for a healthy thyroid gland.
- Manganese helps with tissue reparation and bone formation, among other things.
- Zinc assists with the digestive process. A zinc deficiency can lead to slow growth, skin lesions and hair loss.
- Copper is essential for the proper functioning of micro-organisms in the rumen. A deficiency can lead to weight loss. Too much can be toxic.
- Selenium is a trace element involved in stimulating the immune system and improving resistance to disease. A lack of selenium can lead to metritis.



A lack of salt is common during hot weather

Production

A cow that eats a balanced ration of good quality forage, should be able to produce between 7 and 10 litres of milk per day. Cows that produce more milk, will need more nutrients. However, it is only economical if the price of the concentrate is less than the amount of milk produced by the cow. Increase concentrate if her milk production increases.

Feeding concentrate

- Concentrates are made up of high energy sources such as grains, a high protein source such as sunflowers, and a mineral mixture.
- You can mix your own concentrate or buy it from your nearest feed manufacturer.
- The ratio for a lactating cow, should be 1 kg of concentrate for every 2 to 3 litres of milk.
- A cow producing 10 litres of milk per day, should be fed 3 to 5 kg of dairy meal per day.
- When feeding concentrate, consider the cow's age, stage of lactation, etc.

The golden rule

Always make sure that your cow has enough good quality roughage and clean drinking water available. Your dairy cow must never be hungry and thirsty. If you suspect that your cows are lacking certain vitamins and minerals, do not try to diagnose the problem by yourself. You may end up spending a lot of money on the wrong product, or feeding your cow the wrong supplement, causing her harm. Contact your feed consultant or veterinarian for advice. [UM](#)