

Overview

These are diseases of livestock that occur when the body reserves of calcium, magnesium or energy cannot meet the metabolic needs. Metabolic diseases include milk fever, hypomagnesaemia (grass staggers) and pregnancy toxaemia (twin lamb disease).

All these can produce an acute, temporary, but potentially fatal deficiency. Managing the diet during the period from late pregnancy to early lactation is crucial in preventing metabolic disease.



CATTLE & SHEEP: A GUIDE TO Metabolic Disease

Milk Fever

Milk fever is caused by calcium deficiency due to a high foetal and milk demand for calcium and a delayed mobilisation of calcium from bone stores.

Clinical signs

Milk fever in cows usually occurs one or two days before or after calving, but can occur a week or more after calving. In sheep, milk fever usually occurs in late pregnancy but can occasionally occur after lambing.

Initially the animal may be excitable with a loss of appetite and unsteady walking. More frequently, a sick animal may be found lying on her breastbone with her head resting on the shoulder. The eyes are dull and staring and the pupils dilated.

If untreated, they will become comatose and die within a day of the appearance of the first signs.

Treatment

Effective treatment with calcium can be achieved if it is administered in time. Treatment with calcium orally or under the skin may be sufficient in early cases. However, often a vet visit will be required to administer intravenous calcium, especially for cases where the animal is recumbent. It is important to keep affected animals warm, well fed and with fresh water available.

Down animals should be rolled frequently to help prevent muscle problems.

Grass Staggers

Grass staggers occurs due to magnesium deficiency. Magnesium has many important roles in the body and is involved in calcium metabolism. There are no reserves of magnesium in the body and so normal functioning is dependent on dietary intake. Hypomagnesaemia occurs most commonly in adult cows which are lactating heavily and grazing on lush grass pastures. It can also occur in ewes in late pregnancy due to poor nutrition.

Clinical signs

The signs can start suddenly with affected animals staggering, falling and undergoing severe paddling convulsions. In some cases, animals may be found dead without illness having been observed.

Treatment

Response to treatment can be variable. Contact your veterinarian as soon as you suspect hypomagnesaemia. Magnesium solutions must only be administered under the skin. Many cases will require calcium treatment as well.

Pregnancy Toxaemia

Pregnancy ketosis occurs in late gestation when an animal cannot meet glucose requirements due to inadequate nutrition. In late gestation (last 4 weeks), animals require roughly 20–40% more metabolizable energy. Excessive fat mobilization (ketones) in this period can overwhelm the liver's capacity and result in damage and organ dysfunction.

Clinical signs

Disease normally occurs in the last 3–4 weeks of gestation, when the foetal demand for glucose increases significantly, and ewes cannot meet their nutritional demands. Sheep may separate themselves and appear to slow and lagging behind the flock. Severely affected animals may become wobbly on their feet, recumbent, or even be found comatose/dead before signs are noted.

Treatment

Response to treatment depends on severity of disease – severely affected animals often require euthanasia due to extensive organ damage. Earlier cases can respond to energy supplementation, and frequently calcium supplementation is necessary as ewes often have concurrent milk fever. Early induction of labour, or caesarean section may be considered as treatment options as well.

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