

# Managing magnesium at turnout

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**S**taggers was, and still is, a regular occurrence mainly in the spring and autumn and vigilance is crucial.

Several decades ago it probably accounted for 0.8% of the deaths of dairy cows. However, with improved herd feed management such as spring and autumn buffer feeding, the number of cases has greatly reduced.

Feed firms incorporate sufficient magnesium in their concentrates to help prevent staggers. However, with the increase of home-mixed TMR and a rise in popularity of low-input, low-output "New Zealand-type" herds, there needs to be increased awareness of preventative measures.

## THE ISSUE

■ Magnesium is stored in many organs of the body, but it is not readily mobilised – maintaining an adequate level of magnesium in the blood requires the cow to consume its requirements daily. Situations such as cold, wet weather (reducing DMI) or food passing rapidly through the gut (reducing magnesium absorption) can bring on the disease.

One of the functions of magnesium is for the orderly transmission of nerve pulses. Magnesium deficiency can lead to staggering, fitting or convulsions and death. A clinical case will tend to indicate that there is an underlying herd problem, thus a herd approach to supplementation or prevention is essential. Magnesium can be a pre-disposing cause of milk fever, thus any increase in milk fever cases could be a warning that there is a problem.

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■ XLVets is a group of farm animal-committed vet practices that work together, alongside commercial research and manufacturing companies. They aim to share best practice on advice and disease-prevention initiatives.



Spring turnout may be better on to permanent pasture rather than fresh seeds to prevent the chances of grass staggers.

## TREATMENT

■ Extreme care needs to be taken when treating staggering or fitting cows, as it can lead to serious injuries to the handlers. Most farms keep bottles (400ml) of 25% magnesium, but these should not be administered intravenously – only under the skin. If the cow is standing, one or two bottles should be given. If the cow is down, one of the proprietary preparations, containing calcium and magnesium, can be given into the vein. Prompt treatment is essential for a successful outcome however – approximately 20% of treated animals will die and animals which have been convulsing for longer than an hour have little chance of recovery.

To maintain magnesium levels the absorption from the gut needs to be continuous, thus a constant supply is necessary in the diet. There are several circumstances which increase the likelihood of problems occurring:

■ Decreased DMI occurring in cold, wet weather can be counter-

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acted by buffer feeding

■ Certain grasses, such as the fast-growing Italian ryegrasses, have low levels of magnesium

■ Fertilisers containing potassium will result in reduced uptake of magnesium into the plants

■ Spring turnout may be better on to permanent pasture rather than fresh seeds

Supplementing at times of risk is probably the most common practice and can include:

## Stagger – key points

### Signs of staggers

- Stiff "legged"
- Excitement
- Staggering
- Fitting/convulsions
- Sudden death

### Prevention

- Buffer feed
- No potassium fertilisers at time of risk
- Do not turn out on to new seeds
- Supplement with magnesium

- Calcined magnesite 60g a cow a day (supplying 30g magnesium a cow a day)
- Soluble magnesium salts (acetate, chloride, sulphate) supplying 20g magnesium a cow a day added to the water supply. When using water medication, ensure this is the only water supply
- Two magnesium boluses given orally two days before the expected risk period
- High-magnesium supplements: molasses or potale syrup with added calcined magnesite – ad lib as licks or mixed with silage
- High-magnesium blocks: not all cattle will access blocks, so easy access and enough blocks for the herd size is essential

Consult your vet, as it may be advisable to take some blood samples to establish whether your herd is high risk for staggers – remember a dead cow at peak lactation would cost £1,500 to replace.

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