



**Victorian Farmers  
Federation**  
Livestock Group

## Livestock Factsheet

### ➤ Grass Tetany



### What is Grass Tetany?

Grass tetany is a fatal metabolic disorder which is caused by low levels of Magnesium (Mg) in the blood (hypomagnesaemia). The risk of grass tetany varies with age (cows 4-6 years old are of greater risk) being more susceptible to the condition), body condition score ( $\times 3.5$ ), milk yield (most cases occur in the early post-calving period when milk yield is high) and the breed of cow (*Bos taurus* breeds of cattle are most susceptible). The worst months for Grass Tetany are from June until August due to climatic conditions at this time. Lush rapid growing pastures in these seasons pose greater risk for grass tetany (autumn and winter) and there is a lack of roughage base for cows usually in mid lactation. Magnesium is needed for correct functioning of the nervous system. Having low levels of Magnesium results in the muscles not being able to function and ultimately if not treated, death.

### Magnesium Intake

A cow's magnesium level depends mainly on the balance between the amount absorbed from the rumen and that depleted through milk production and passed out in the dung. Magnesium intake depends on the level of magnesium found in the amount of herbage consumed (a pasture mineral leaf test can be taken to evaluate mineral balance). Cows are at risk when herbage contains less than 0.2% magnesium (dry matter) or when pasture availability is less than 1000 kg dry matter/hectare. An outbreak of grass tetany may be preceded by a period off-feed, such as during yarding or transport.

Potassium can also play a role in interference of magnesium absorption from the rumen. This is common if cattle are grazing growing pastures on soils that are naturally high in potassium or have been fertilised. Low magnesium absorption can also occur when rumen potassium levels are elevated by salt (sodium) deficiency, fasting or sudden changes from a dry matter diet to lush green feed.

### Symptoms

The disorder has a short period of clinical signs being evident, and a high fatality rate with death usually being the first indicator of grass tetany. A common sign to observe from the dead animal is froth from the mouth and nose, and the ground scuffed where the cow's legs thrashed backwards and forwards (padding) before she died.

Early signs of the condition that are often missed are twitching of the face and ears as well as a stiff gait. A cow may have

abnormally low levels of magnesium but display no obvious symptoms. This underlying low level of magnesium may bring on visual signs if a cow becomes further stressed due to factors such as yarding, mustering, or transportation.

Affected cows may display signs of nervousness when disturbed and have a stiff gait when moved. They may also take flight and gallop madly or bellow before going down and then they are unable to rise. Once an animal goes down with grass tetany, they usually have a heightened response to light, touch and sound. The animal may begin to twitch and jerk with muscle spasms (tetany), kick and begin rolling of the eyes. Her head will arch back and frothing at the mouth will occur. Death usually ensues within minutes to a few hours.

### Management tools

#### Treatment

Sudden death in lactating cows is not always due to grass tetany. It can also be caused by a number of factors such as bloat, mastitis, milk fever, clostridial diseases and even anthrax. You must be sure of the diagnosis so it is recommended you seek veterinary advice before commencing treatment.

When one or more cases of diagnosed grass tetany have occurred in the herd immediate treatment and prevention should take place.

Immediate action usually involves treating affected animals with a '4 in 1 pouch' such as Minbal 4 in 1<sup>®</sup>. This is injected straight into the jugular vein (this method is recommended to be done by a veterinarian) with further supplementation subcutaneously over the ribs or neck.

Oral supplementation is then provided to prevent relapses. Pour on supplements such as Causmag<sup>®</sup> can be added to hay. This is the most common method compared to other supplements such as Magnesium licks which not all cows are attracted to. The daily requirement for Causmag<sup>®</sup> is 60 gm/cow/day. It generally takes 2-3 days to take effect and protection ceases as soon as supplementation is stopped.

Magnesium licks offer protection but it cannot be guaranteed that all stock will use them. Licks and blocks should be placed in high traffic areas such as near feeders or water troughs to encourage use.

Magnesium capsules (bolus) can be used as prevention against tetany, usually lasting up to 80 days. They are inserted into the rumen and release magnesium into the system within a week of insertion. It is recommended that this not be the only precaution. Adding quality roughage to the diet such as hay helps with the absorption of the magnesium in the rumen.

### Preventing grass tetany in your herd

Prevention is the best method to avoid losses from grass tetany. Having a plan set in place before deaths occur is vital in reducing economic losses. A property plan can be installed into general management by:

- Evaluating paddocks on pasture/crop type and conducting soil testing.
- Avoid overuse of potash in your fertiliser programs as potassium and nitrogen applications increase risk of tetany disorder.
- Older, high milk yield cows are most susceptible although younger stock can also be affected.
- Assess the percentage of cows over 5 years of age in your herd that will be 3-4 months into lactation and ensure they have access to good quality roughage. This may include pasture-dominant paddocks or access to hay or silage.
- Cows younger than 5 years can also get grass tetany however other factors such as high potassium or low sodium, calcium or phosphorus are the likely cause. Therefore these stock must also be monitored.
- Ensure that cows in the late dry period and early lactation have adequate magnesium in their diets and consider preventative supplementation.
- Be sure to monitor the condition score of cattle, taking note if the cattle lose weight through winter (high risk months).
- Another preventative measure is reducing stress and any period off feed in your herd, such as having 'at risk' mobs during the grass tetany season in a sheltered paddock and avoiding unnecessary yarding and handling.

## Take Home Messages

- The worst months for Grass Tetany are from June until August due to climatic conditions at this time.
- Magnesium is needed for correct functioning of the nervous system. Having low levels of Magnesium results in the muscles not being able to function and ultimately if not treated, death.
- When one or more cases of diagnosed grass tetany have occurred in the herd immediate treatment and prevention should take place.

For further information, please contact the VFF Livestock group on 1300 882 833 or by email to [khenne@vff.org.au](mailto:khenne@vff.org.au)

### Further Links

#### Department of Primary Industries Victoria

<http://www.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/animal-diseases/beef-and-dairy-cows/grass-tetany-hypomagnesemia-in-beef-cattle>

#### Department of Primary Industries New South Wales

[http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0013/111334/Grass-tetany-in-cattle.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0013/111334/Grass-tetany-in-cattle.pdf)

#### Meat and Livestock Australia

<http://www.mla.com.au/Livestock-production/Animal-health-welfare-and-biosecurity/Diseases/Nutritional/Grass-tetany>

#### Meat and Livestock Australia Health Cost Benefit Calculator

<http://www.mla.com.au/News-and-resources/Tools-and-calculators/Health-cost-benefit-calculator>

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