



Grass tetany, also known as hypomagnesemia or grass staggers, is a fatal metabolic disorder that primarily affects grazing animals, such as cattle, sheep, and goats. It occurs when there is an insufficient level of magnesium low magnesium (Mg) / high potassium (K) in the animal's bloodstream, leading to neurological and muscular disturbances. It is a greater risk after drought and is more common in lactating cows.

Grass tetany is often associated with animals grazing on lush, rapidly growing pastures, particularly during the spring and early summer when the magnesium content in the forage is lower. The condition can also be triggered by factors that hinder magnesium absorption, such as high levels of potassium, nitrogen, or calcium in the diet.

Symptoms of grass tetany typically include muscle twitching, staggering, and an unsteady gait. As the condition progresses, affected animals may experience convulsions, loss of coordination, and, in severe cases, death. Immediate treatment is crucial to prevent fatal outcomes, and it usually involves intravenous administration of magnesium and calcium supplements.



Exchangeable cation ratios can be used to calculate the grass tetany hazard:

Grass tetany hazard = exchangeable K / (exchangeable Ca + exchangeable Mg).

Grass tetany might occur on soils where this ratio is > 0.07. If this is the case, the agronomist is the next port of call. Values above 0.07 do not mean grass tetany is imminent, but further investigation might be necessary if cattle are grazing the paddock.

Example:

Using the exchangeable cation results from the following test results, the grass tetany hazard can be estimated as,

Grass tetany hazard = 1.1 / (4.6 + 1.5) = 0.18

This value is above 0.07 and indicates further investigation and agronomist or veterinarian advice if cattle are grazing the paddock.

In this case, prevention is essential in managing potential grass tetany. Providing animals with a balanced diet that includes sufficient magnesium and avoiding sudden dietary changes can help reduce the risk of occurrence. Additionally, using mineral supplements and carefully monitoring grazing conditions can aid in preventing this potentially life-threatening condition in grazing livestock.

Exchangeable cation	Result (cmol+/kg)
Calcium	4.6
Magnesium	1.5
Potassium	1.1
Sodium	0.08



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