

No 152: Magnesium for Dairy Cows

MAGNESIUM FOR DAIRY COWS

Nutreco's Ruminant Research Centre (RRC) in the Netherlands summarises relevant topics in the form of an "Infogram".

The accompanying Infogram 17 provides information on the importance of magnesium (Mg) supplementation in the diet of dairy cows.

Key Points

With its role as one of the most common enzyme activators, Mg plays a critical part in the function of a variety of physiological processes. Both clinical (grass tetany or grass staggers) and sub-clinical (increased susceptibility to milk fever, lower intake and production and behavioural changes) deficiencies clearly indicate that adequate provision of Mg in the diet of dairy cows is essential.

Mg status is dependant on the balance between input (dietary intake) and output. As Mg absorption is not regulated, any excess is excreted via the urine. Urine concentrations of Mg above 100mg Mg/l indicate an adequate Mg status.

The absorption of Mg occurs mainly in the rumen, and is influenced by many factors including rumen pH, high dietary potassium (K) concentrations, low dietary Mg concentrations, high milk yield, concentrate feeding level and other animal factors. In practice, Mg absorption varies between 15 – 30% of the daily intake.



Mg requirement can be safely assumed to be 0.25% of DMI for lactating cows and 0.4% for dry cows.

The Mg content of feedstuffs can vary significantly, as can the level of antagonists, therefore Mg supplementation is required. The most common source is magnesium oxide (MgO, calcined magnesite). The source, manufacturing process and particle size influence its quality in terms of absorption into the animal.

Supplementation of the diet with approximately 60g/d of a quality MgO is generally sufficient.

Further information can be obtained from the Frank Wright Trow technical department on 01335 341102.

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