

## Spring turnout- Supplementation at Grass

- It is important to consider vitamin and minerals at grass. Requirements are based on supplementary level due to the wide variation of supply from grass.
- One of the first minerals to consider at turnout is magnesium. Pasture is relatively low in magnesium, which can decrease further with fertiliser (NPK) application.

### Magnesium

- Essential major mineral which is required for the nervous system and psychological processors.
- Linked to bone formation (most of mag is found in the skeleton; 60-70%)  
- Bone reserves are not released in times of deficiency.
- Mag is known to be important for regulating blood calcium, sub-clinical hypomagnesaemia can increase the risk to milk fever.
- High Potassium can interfere with the absorption of magnesium.

**Magnesium is not stored in the body and therefore needs a constant and simple supply.**

<p><b>Why is it seen at turnout?</b></p> <ul style="list-style-type: none"> <li>• Less supplementary feeding.</li> <li>• Spring grass is low in Mg due to rapid growth.</li> <li>• Lush, low dry matter grass increases rumen outflow rate, preventing the concentration of Mg within the rumen fluid from reaching high enough levels to fully saturate the transport sites for magnesium in the rumen.</li> </ul>	<p><b>Dietary factors on Mg absorption</b></p> <ul style="list-style-type: none"> <li>• Potassium is an antagonist</li> <li>• Aluminium, from soil contamination</li> <li>• Rumen passage rate and flush of grass</li> <li>• High dietary N</li> </ul> <p>Absorption is variable, from 0-50%. In practice the absorption can be assumed to vary between 15-30%. If the intake is greater than what is used it is excreted in urine. The rumen needs a daily supply as Mg is mainly absorbed in the rumen.</p>
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## Requirements and Sources

	Mg Requirements (g/kg DMI)	Average Dry Matter Intake (kg DM)	Total Mg Requirements (g/day)
Dairy	2.5	20	50
Suckler	2.0	14	28
Dry cow	4.0	12	48
Growing Heifer/Beef	1.1	2% of BW	4.4
Lambs	0.9	1	0.9
Ewe	1.5	2	3.0

### Source of Mg

- Magnesium Chloride: 12% Mg
- Magnesium Sulphate: 10% Mg
- Magnesium Phosphate: 25% Mg
- Magnesium Oxide (CalMag):

- ➔ Too much Mg would cause scouring. What is fed in the morning would be utilised in the afternoon. It is recommended that feeding twice a day in compound feed will fulfil daily requirements.



A cow has 60L of blood. The following specify the amount of Mg in the blood:

Normal state: 3.0g

At risk: 1.5g

## Symptoms of Grass Staggers

- Feed intakes reduced
- Nervousness, excitable and restless
- Walking stiffly with high head carriage
- Muscle twitching
- Wide eye share
- Neurological disorders (such as muscle spasms)
- In server spasms, head will tend to arch backwards
- Frothing at mouth
- Cow unable to stand up

## NWF Solution

- **Compound feeds:** Magnesium is included in NWF standard summer diets. Pasture dusting/spraying, aiming to increase uptake by coating swards. Re-application should be done after heavy rainfall and dew.
- **Minerals/buckets:** A range of options which are available, from free access minerals to hi mag buckets. Rock salt/salt lick can enhance magnesium uptake from the rumen.
- **Water:** Magnesium chloride flakes can be added to provide supplementation (they can be added to TMR's also).
- **Drench** with Magnesium sulphate or chloride
- Magnesium rich plant such as chicory and plantain.

**With the correct management and attention to the Mg supply in the diet, staggers should be easily avoided this spring!**

**For more information please contact the office.**

### References:

- Trouw Urgent News, Solutions this Summer 5<sup>th</sup> March 2018.
- Trouw GB Magnesium Webinar, 5<sup>th</sup> March 2018
- <http://www.nadis.org.uk/bulletins/hypocalcaemia-and-hypomagnesaemia.aspx>
- <http://www.hccmpw.org.uk/medialibrary/pdf/717.pdf>