

GRASSLAND & MUCK 2017 GRASS TRIALS



Trial Information:

Trial by: Calcifert & The Glenside Group

Location: Grassland & Muck Showground, Stoneleigh, Warwickshire

Crop: Grass

Crop Year: 2017

Application:

A Sustainable Soil Management Gold soil test was used to ascertain the nutrient requirements of the ground, and highlighted that soil pH was being held up by magnesium rather than calcium. Other significant shortages included potassium, boron and zinc.

Plots were drilled with a three-year cutting and grazing mix in September 2016. Seedbed fertiliser was applied at rates of 25kg N, 50kg P₂O₅ and 50kg K₂O. Five trial plots then received an application of 250 kg/ha of Calcifert granulated calcium products with the sixth being left as a control. An application of 70kg N/ha nitrogen was made in late March.

Kg/Ha of elements applied in a blanket application of 250kg/ha of each product:

Treatment	Calcium	Mag	SO ₃	Boron	Zinc	Cu	Biostim
Calcifert Sulphur	67.5	0	140	0	0	0	0
Calcifert Mag	54.5	29	0	0	0	0	0
Calcified Lime +	97.5	0	0	0	0	0	Yes
Pasture Plus	80	0	10	0.325	0.75	0.5	Yes
Calcifert Lime BZn	97.5	0	0	0.9	0.9	0	Yes

Continues over...

Results:

All products showed an improvement in dry matter (DM) production over the control plot, highlighting the potential of a grass crop to produce extra energy per hectare if fed with the appropriate nutrients. The table below summarises the yield improvement and energy improvement equivalent (EIE) based on 1kg of grass DM being worth 11.8MJ.

Treatment	DM t/ha	DM increase t/ha	EIE increase MJ/ha
Calcifert Sulphur	4.39	0.21	2,485
Calcifert Mag	5.52	1.34	15,810
Calcified Lime +	5.41	1.07	12,633
Pasture Plus	5.65	1.48	17,410
Calcifert Lime BZn	6.05	1.87	22,054
Control	4.18		

Further grass analysis by Agriking (see table to the right) shows a significant improvement in cell wall digestibility (CWD) above that of the control. Using the DM yield improvement for Calcifert Lime BZn and its improved digestibility, each hectare would produce 1.92t more digestible forage.

Treatment	CWD %
Calcifert Sulphur	68.1
Calcifert Mag	69.0
Calcified Lime +	64.7
Pasture Plus	66.1
Calcifert Lime BZn	69.1
Control	54.5

The results show the importance of calcium to forage production and highlights how good soil analysis can inform nutrient decisions. Calcified Lime Plus, a straight calcium product, produced a significant improvement in yield but was out-performed in terms of yield by 0.8t DM/ha by Calcifert Lime BZn. This shows the importance of having an adequate supply of boron as it is central to the transport of calcium into a plant and its cell wall formation, and therefore crop quality and digestibility.

Supplying an improved amount of nutrient to the soil on the site also produced a significant benefit in nitrogen utilisation. Calcium can be a limiting factor to efficient nitrogen utilisation as shown by the trial. The control plot required 23kg N/t DM compared to the Calcifert Lime BZn at 15.7kg N/t DM.

The energy and cell wall digestibility figures in the tables above illustrate the potential of the nation's pastures and the productivity opportunities if the right type of nutrition is applied to grass.

Key learnings from the trial

- It is important to analyse more than just the basics in a soil test to ensure land receives the appropriate product.
- Improved soil nutrition can make a real difference to nitrogen utilisation.
- There are real production benefits to be gained from applying readily available calcium and key trace elements to grassland.
- Balancing nutrition has the potential to improve both output and crop quality. In this trial, Calcifert Lime BZn was the top performer in terms of yield and digestibility.

Summary

Do not underestimate the importance of calcium as a nutrient. Applying one of the Calcifert granulated products at the appropriate time has to make sense as part of a properly integrated nutrient management plan. Ensure calcium is part of your fertiliser program not an afterthought.

All Calcifert products...

- Are available in 600 kg bags and can be applied through a conventional spreader
- Can be spread at any time of year with other fertiliser
- Can be applied either to bare ground or growing crops
- Need lower application rates than conventional lime due to higher reactivity

Visit www.calcifert.co.uk for more product information