



## **Nitrogen reduction increases DM yields and reduces emissions across four grassland trials**

- **Four grassland trials assessed returns from a 15% lower nitrogen input.**
- **A prescription grassland fertiliser was compared to a traditional CAN fertiliser.**
- **Average DM yield increase of 10.1% with continual improvements after third grazing on the prescription areas.**
- **Emissions from the prescription fertiliser reduced by 14.8%.**

Four grassland grazing trials comparing if a prescription fertiliser with a 15% lower nitrogen content can match a calcium ammonium nitrogen (CAN) fertiliser have returned a 10% average DM yield increase and 14.8% reduction in emissions output.

The trials took place over a two-year period using Origin Fertilisers' Sweetgrass prescription grassland fertiliser, which has a 15% lower nitrogen content compared to CAN. The four grazing areas using Sweetgrass revealed a 10.1% average DM yield increase alongside improvements to nitrogen use efficiency, energy, digestibility, and crude protein levels. Furthermore, the trials also highlighted the significant reductions in emissions by 14.8% from using less nitrogen fertiliser during a growing season.

Guillaume Franklin, nutrition agronomist at Origin Fertilisers, explains why these trials should change how farmers decide on grassland nutrition. "If we assess the returns from straight nitrogen as a benchmark for grassland yield, these four trials highlight there is so much that can be gained by changing the way fertiliser is selected. Although grass and silage need nitrogen to maximise growth, it can't grow quality crops on its own. We wanted to demonstrate that balanced nutrition is essential to high yielding and nutritious grass."

Each trial assessed DM yield across six grazing periods throughout the year and increases were consistently shown from the third grazing onwards in all trials, with two trials also returning increases in the first and second grazing periods. When evaluating fertiliser use efficiency, a balanced nutrition application can have a much greater impact on key aspects of grazing returns.

Guillaume continued: “The DM yield increase from the third grazing shows that once the plant had access to the tailored grassland fertiliser, it was able to comfortably outcompete the straight CAN area. This is due to Sweetgrass including additional sulphur, sodium and magnesium.

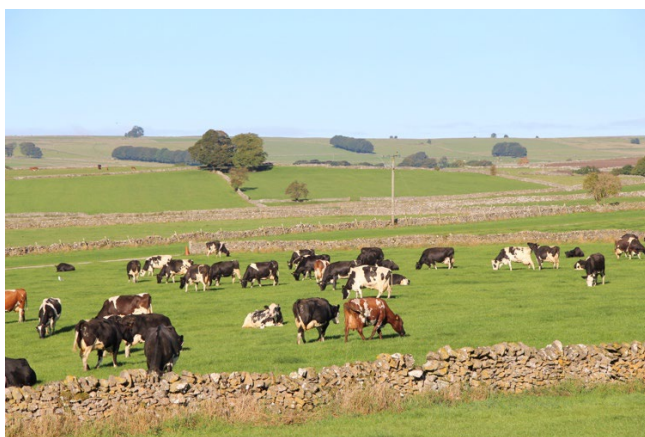
“Grazing systems are subjected to heavy and persistent defoliation, so increasing yield is harder as the recovery rate of plants is lower, especially when there is nutrient deficiency. With the Sweetgrass area supplying a greater sulphur addition to support nitrogen uptake, there was more potential for plants to build biomass quicker, while improving NUE and digestibility.”

A second-year trial assessing the same inputs on one of the original areas returned considerable increases in dry matter yield in the first and second grazing, which highlights the significant benefits to repeat applications of balanced nutrition.

Guillaume concludes: “The early results from the second-year trial show that the grassland has residual nutrition that was accessible. When this is combined with early season applications of Sweetgrass, the grass has more of the key nutrients it requires earlier in the season, which is part of the reason for the significant increases in the early stages.”

–ENDS–

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**Image:** Cows grazing

**Caption:** Four grazing trials have shown it is possible to reduce nitrogen inputs and increase quality by changing to prescription fertiliser



**Image:** Guillaume Franklin, nutrition agronomist, Origin Fertilisers

**Caption:** Guillaume says the four trials highlight there is so much to gain by changing the way fertiliser is selected and that nitrogen can't grow quality crops on its own.

**Notes to editors:**

- Origin Fertilisers is a national manufacturer and distributor of fertiliser with 12 production facilities across Great Britain and headquarters in Royston, Hertfordshire.
- Origin has over 17,000 products to help arable and grassland farmers make better use of fertiliser – both financially and environmentally – by using targeted prescription fertilisers to improve soil fertility and crop productivity. Targeted nutrition (with a known carbon footprint) can have a significant impact on helping farming reach sustainability goals.
- A team of regional in-house nutrition agronomists offer practical advice to growers on ways to improve their crop nutrition and fertiliser usage.

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