



Using grassland fertilisers efficiently and building your pillars of success

Every year CF Fertilisers UK invests time, effort and hard cash in a dedicated **research and development programme** designed to produce practical advice for grassland farmers on improving the efficiency of their systems. We conduct our own work and draw on the latest innovations of researchers to bring knowledge to grassland farmers that will support their development and profitability.

Four key foundations for grassland success

At CF Fertilisers we strive to provide high quality fertiliser products and advice that help you grow grass and forage to the yield and quality targets demanded by your system. We address the needs of all system types: milk and meat; high, medium and low inputs; grazing and silage based.

Our belief is that when it comes to soils and nutrients, there are four foundations on which to build your success; our job is to support you in developing these with our products and services.

Healthy soils – The management of soils and nutrients in the base of any farming system that produces milk and meat. Soil is the fundamental growth medium on which grass and crops live, taking free energy from the sun to grow grazed and conserved forage for your livestock, which turn these into products that you can sell. Soil is also a legacy that we leave to the next generation, so improving soil health is at the base of your future success.

Energy for production – Every system for producing milk and meat has to supply enough energy for maintenance and production. Finding an optimal balance of energy supply for your system from grazed, conserved and purchased feeds is critical to the productive and economic sustainability of your business. So, as a rule of thumb, 70 MJ ME per day for maintenance plus 5.4 MJ ME for each litre of milk produced in dairy production, and 11 MJ ME per 100 kg liveweight for maintenance and 47 MJ ME for every kg liveweight gain in meat production, enables you to plan your energy supplies to optimise your enterprises.

Using a bottom up energy based approach to planning your grass, forage and purchased feeds within the system will also allow you better plan the Nitrogen, Phosphorus, Potassium and Sulphur inputs from feeds and fertilisers. In many systems, more N, P and K comes from purchased feeds than from purchased fertilisers.

Grass and forage growth and utilisation – As the cheapest feeds, grazed and conserved forages require care and attention in order to maximise the amount grown and fed to stock. This thinking applies all the way from nutrient management decisions in the field, integrating organic and purchased fertiliser supplies, through grazing and harvesting management, to diet formulation and feeding. Striving for continuous improvement in this area and getting more saleable product from home-grown grass and forage will drive your business profitability.

Profitability – Farming is at the core of food production, socio-economics, environmental land management and culture within the rural communities of the UK. Profitable farming enables us to maintain and develop the communities and landscapes that we are proud to be a part of. Nutrients play a key role in driving profitability. Farming enterprises that aim to produce at least 4,000 litres milk per cow from grass and forage and at least 700 kg liveweight gain per ha for meat systems will always have the greatest chance of being profitable and thriving.

Blue bags grow better crops



Key issues, targets and recent innovations

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| <p>Get soil nutrition right to optimise grass growth and quality</p> <p>Trial ref: NRM Ltd.</p> | <ul style="list-style-type: none"> • Soil pH is vital. Target pH 6.0 – 6.5 to optimise nutrient use and grass growth/quality. • Sub-optimal soil pH reduces yield. Dropping from pH 6.5 to 5.5 can reduce grass growth by 35 – 40%. • Soil P and K status is critical. Target soil indexes of 2 for P and K. • Latest data shows that average pH in UK grassland soils has declined from 6.3 (1995) to 5.8 (2015); 28% have a P index less than 2 and 43% have a K index less than 2-. • Soil sample all fields once every 3 to 4 years and plan slurry and fertiliser applications to optimise soil nutrition with an annual Nutrient Management Plan. |
| <p>Use AN rather than urea to safeguard grass yields</p> <p>Trial ref: CF Fertilisers/Reaseheath College</p> | <ul style="list-style-type: none"> • Using urea or inhibited urea reduced grass DM yield in 2015 by at least 23% for 1st cut silage and 10% for spring grazing, compared to Ammonium Nitrate (Nitram®). • Performance of urea depends on rainfall and temperature in the 3 days after application. • Weather data analysis shows that there is only a 20-30% chance of urea working as well as AN – weather on most spreading days leads to volatilisation N losses from urea. • In UK growing conditions, AN is more reliable for grass production. |
| <p>Make sure you apply maintenance phosphate for silage cuts at soil P index 2</p> <p>Trial ref: CF Fertilisers/Reaseheath College</p> | <ul style="list-style-type: none"> • Failing to apply maintenance P dressings on 3 cut silage system reduced yield by 10% (11.9 to 10.7 t DM/ha in 2014). • 3 cut system requires 80 kg P₂O₅/kg split over the three cuts. |
| <p>Sulphur – get an increase in grass protein content</p> <p>Trial ref: CF Fertilisers/Reaseheath College</p> | <ul style="list-style-type: none"> • Applying S-containing fertilisers in a grazing regime can increase grass crude protein (CP) content by 4 to 12%, depending on soil type and age of sward. • Average increase across the grazing season was from 16.7 to 17.9 g CP/kg DM. • Consistent response at all grazings, allowing you to plan a small positive increase into nutrition thinking. |
| <p>Compound NPKS fertilisers spread more accurately to give grass yield advantage</p> <p>Trial ref: CF Fertilisers/Bogballe spread-hall testing</p> | <ul style="list-style-type: none"> • On-farm trial work and spreader testing shows that True Granular Compounds produce more grass with higher quality than a blended fertiliser with the same analysis. • 2015 spread-hall testing shows reduction of 14% in N application across outer half of bout width due to inaccurate spreading with blends. • Plants have more access to nutrients in year of application with a True Granular Compound, which impacts positively on yield and quality. |
| <p>Assess soil condition and plan to remove compaction</p> <p>Trial ref: AHDB Dairy/SRUC/BGS</p> | <ul style="list-style-type: none"> • Soil compaction from machinery wheelings reduces grass yield by up to 25%. • Soil compaction from grazing reduces grass yield by up to 15%. • Sward lifting in autumn in the right conditions can relieve wheeling compaction. • Spike aeration during the season relieves compaction caused by grazing. • Digging soil inspection pits helps you assess if and where soils are compacted. • Impacts of compaction and mitigations proven in the UK by experimental and on-farm trial work between 2012 and 2015. |
| <p>The most profitable dairy farmers spend more on fertilisers</p> <p>Trial ref: Farm Business Survey 2014/15</p> | <ul style="list-style-type: none"> • Top 25% spend £145/ha on fertiliser, compared to £120/ha for bottom 25%. • Top 25% farm output: input cost ratio is 2.66, compared to 1.90 for bottom 25%. • Focus on purchasing quality fertilisers and applying the right amount helps to improve profitability. |

Produce more. Impact less.

CF Fertilisers have invested heavily in reducing the carbon footprint of the fertilisers that we make. For example, the carbon footprint of Nitram® has been reduced by 40% since 2010. Also, the entire CF Fertilisers range carries product Carbon Footprints, certified by the Carbon Trust.

For further help and advice, please contact us today
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