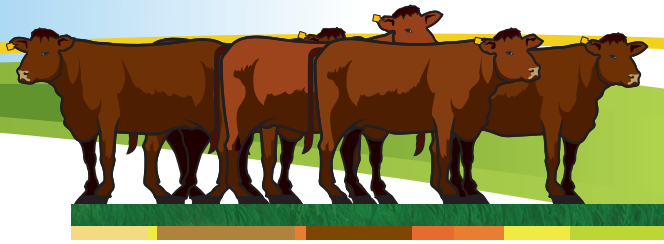
Soils, Nutrients and Fertiliser Factsheet

Nitrogen for Beef Farms



Grassland

Grazed grass is the cheapest feed available for beef production. Turning stock out to grass early in spring will improve animal performance and reduce costs of production

Grassland measurement and management

All farms, regardless of size, will benefit from grassland measurement. Grassland measurement will help ensure high quality grass is available for livestock

High quality grass = good livestock growth rates and reduced requirement for supplementation

Use information such as weather forecast (www.met.ie) and grass growth predictions to inform decisions around N fertiliser application

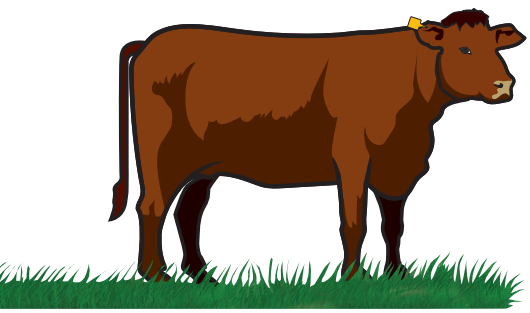
Incorporate white clover in grassland swards

Establishing white clover in grassland swards offers a real opportunity to increase grass quality and reduce chemical N fertiliser application. Aim to establish white clover through oversowing or reseeding in April and May

Protected urea

Protected urea is the cheapest N fertiliser

Protected urea reduces nitrous oxide emissions and ammonia losses and there are no negative effects of using protected urea on herbage production compared to using other forms of N. All farmers should aim to use protected urea as their chemical N fertiliser source



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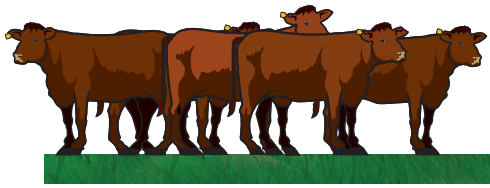
Spring N fertiliser

The timing of the first application of fertiliser N must be matched to the stocking rate and the turnout date

To optimise the benefits of early N (slurry or fertiliser) applications:



- Soil temperature must be close to 5°C and rising at the time of application
- Ensure no heavy rain is forecast immediately after spreading
- Target
  - drier fields
  - fields with good soil fertility (pH >6.2; P & K Index 3+)
  - fields that have at least 6 cm (400 kg DM/ha) of grass on them
- Aim to have most of the slurry spread by mid-April
- Recently reseeded fields/fields with high perennial ryegrass content will give the best response
- An early application of 2000 - 2500 gals/acre of slurry will replace 20-25 kg fertiliser N/ha (16 - 20 units of fertiliser N/ac)
- Target slurry to 1st cut silage areas and areas with low P & K status
- Apply slurry using LESS to optimise nutrient availability

Table 1. Nitrogen fertiliser and slurry application plan for the early spring period on heavy soil, less intensive and/or later turnout farms (flexibility in application is essential on heavy land)

Month of application	Product	1st 33% of farm area	2nd 22% of farm area	3rd 33% of farm area
February/March	Cattle slurry[1]	2,500 gals/ac (25 kg N/ha; 20 units N/ac) Driest land with lowest cover and some silage ground[2]		2,500 gals/ac (25 kg N/ha; 20 units N/ac) Areas that are trafficable & mostly silage ground[2]
	Protected urea	29 kg N/ha (23 units N/ac)	58 kg N/ha (46 units N/ac) (can be completed in two splits)	29 kg N/ha (23 units N/ac)

[1] Assumes slurry at 6% DM, adjust application rates based on slurry DM%
[2] Some of this area will be silage ground

Nitrogen fertiliser application strategy for main grazing season

Stocking rate		April	May	June	July	August	September
1 LU/ha	kg N/ha	20	–	15	–	–	–
	units N/ac	16	–	12	–	–	–
2.5 LU/ha	kg N/ha	27	27	27	27	27	29
	units N/ac	22	22	22	22	22	23

Deirdre Hennessy, Seamus Kearney, Mark Plunkett, David Wall, Mark Moore (Editor), Pat Murphy, Stan Lalor, were the main contributors to this series of leaflets. Numerous colleagues from Teagasc AGRIP, CELUP, REDP, Signpost, PR dept. and advisory service also participated.

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