

Soils, Nutrients and Fertiliser Factsheet

Nitrogen for Dairy Farms



Grazed grass is, and will continue to be, the cheapest feed available for dairy production. Strategic use of N fertiliser is crucial for optimum N use efficiency and minimising losses to the environment

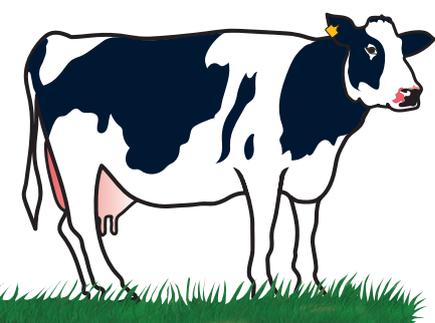
Key factors influencing N use efficiency

- Good soil fertility (Index 3 for P & K and soil pH >6.2) is crucial to ensure good plant N uptake and optimum N use efficiency
- Soil test and use the results to develop a nutrient application plan. Contact your local Teagasc Advisor for more information on NMP Online
- Apply all slurry using LESS – this increases the availability of N, P and K
- Target slurry to areas of the farm with low P and K
- Avoid over application of slurry
- Aim to apply lime to low soil pH areas of the farm when the opportunity arises
- Consider reseeding underperforming paddocks or very weedy paddocks. Reseeded paddocks are more efficient at utilising fertiliser and slurry N
- Record all fertiliser application
- Calibrate your fertiliser spreader to ensure no over application occurs
- Check the weather forecast before applying slurry or fertiliser N – do not apply if heavy rain is forecast

Grassland measurement and management

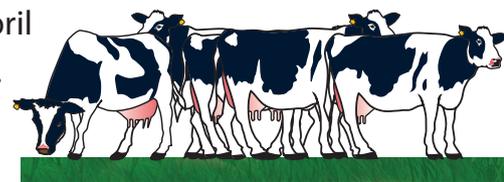
Walk your farm weekly to measure how much grass is available. Use the information to identify surpluses and deficits in grass supply, and to make appropriate adjustments to N fertiliser application

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

Aim to establish white clover through oversowing or reseeding in April and May. Chemical N fertiliser application can be reduced by approx. 100 kg N/ha on swards with 20-25% white clover



Protected urea

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

Fertiliser N

Use slurry to replace some chemical N fertiliser in the spring

In summer, use farm cover, weather forecast and grass growth predictions to inform decision making around fertiliser use

Early spring slurry and N application

Month of application	Product	40% of farm area	15% of farm area	15% of farm area	30% of farm area
Jan./Feb.	Cattle slurry ¹	2,000 gals/ac (20 kg N/ha - 16 units N/ac) Lower covers (<1000 kg DM/ha) ²			
Feb. ¹	Protected urea			29 kg N/ha (23 units N/ac)	29 kg N/ha (23 units N/ac)
	Cattle slurry ¹		2,500 gals/ac (25 kg N/ha - 20 units N/ac) Mid-February after grazing ²	2,500 gals/ac (25 kg N/ha - 20 units N/ac) End-February after grazing ²	
Mar.	Protected urea	50 kg N/ha (40 units N/ac)	50 kg N/ha (40 units N/ac)	29 kg N/ha (23 units N/ac)	50 kg N/ha (40 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

Month (rotation)	April (2nd)	May (3rd)	May (4th)	June (5th)	July (6th)	July (7th)	August (8th)	Mid September
kg N/ha	28	22	18	17	17	17	17	29
unit N/ac	22	18	14	14	14	14	14	23