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**FERTILISER FOR SPRING GRASS**

Spring grass extends the grazing season and can have a major effect on the feeding costs and performance of livestock. This factsheet is a guide for the use of spring fertiliser for grazed pasture. The guide also applies to fields grazed prior to a later silage crop.

**VALUE OF SPRING GRASS**

- Grazed grass typically costs 5-7p/kg compared to 8-10p/kg for silage and 15-18p/kg for compounds.
- Spring grass stimulates increased milk production in ewes and cows.
- Early grass will allow earlier silage closure for better yields and quality.
- Early growth will favour the most productive grasses (Perennial ryegrasses) in the sward.
- Even with a response as low as 6 kg grass/kg N, nitrogen fertiliser produces a lower cost feed option than a combination of silage and compound feed.

**Table 1: Effect of fertiliser N \*cost and grass response rate (kg Dry Matter) on cost of spring grass (p/kg)**

N Cost p/kg	50p	60p	70p
<b>Response rate - kg DM**/kgN</b>			
<b>6</b>	<b>8.3</b>	<b>10</b>	<b>11.6</b>
<b>8</b>	<b>6.2</b>	<b>7.5</b>	<b>8.7</b>
<b>10</b>	<b>5</b>	<b>6</b>	<b>7</b>

\*At £200/t for ammonium nitrate (34.5%N) a kg of N costs 58p

There are also significant savings in labour by having stock out on early grass. Total savings (feed + feeding + slurry handling) can be around £1/cow/day.

**RESPONSE TO NITROGEN**

Grass growth occurs at temperatures above 5°C. Short periods with temperatures high enough for growth will occur before temperatures remain high enough for sustained growth and this can be exploited. Decisions on N application date should be based on a combination of soil temperature prediction and some 'site' and 'sward' characteristics are shown in Table 2.

**Soil temperature:** IBERS has shown a good correlation on upland swards between N response and date of 5.5°C (5 consecutive days) at 10cm soil depth.

**Location:** Coastal v inland - altitude, aspect, soil type and drainage all affect soil temperature.

**Sward type:** Early varieties will respond better to earlier N. Young leys have more vigorous spring growth than older leys and permanent pasture.

N applied too early results in increased N loss through leaching, run-off or gaseous N loss from waterlogged soils. N should therefore **not** be applied onto wet or frozen soils **nor** before the dates indicated in Table 2. The soil is dry enough to receive N when the ground can carry a normal farm tractor without breaking the turf. The risk of run-off on steep slopes requires some additional caution.

**Table 2: Spring Fertiliser Application Date Guide**

Location/altitude	Early sites*	Average sites	Late sites**
<b>Lowland (&lt;100m)</b>	<b>Early Feb</b>	<b>Late Feb</b>	<b>Early/mid March</b>
<b>Upland (100-250)</b>	<b>Early March</b>	<b>Mid March</b>	<b>Late</b>
<b>Improved Hill (&gt;250m)</b>	<b>Late March</b>	<b>Early April</b>	<b>Late April</b>

If the site has two or more of following characteristics:

\***Early Site** – Coastal, S aspect, light soil, well drained, Italian/Hybrid Ryegrass, young ley.

\*\***Late Site** – N aspect, heavy soil, impeded drainage, low PRG ley permanent grass, steep slope.

## NITROGEN (N)

- All fertiliser forms of N are water soluble and very mobile. They are easily leached, or subject to run-off from wet soils.
- Under warm, sunny conditions Urea is at greater risk than ammonium nitrate to loss of nitrogen to the atmosphere. Under spring weather conditions Urea has similar efficiency to other N fertilisers.
- Prilled forms of Urea are more easily and uniformly spread but fertiliser applicator density and smaller spread width compared to other fertilisers.  
60kg/N/ha is recommended for spring grazing. This should be reduced by 10-20 kg N/ha for grass/clover swards.
- The N value of slurry will depend on its source, dry matter, time and method of application. A typical surface application of cattle slurry may supply about 40 kg N/ha of available nitrogen.

- **PRODUCT CHOICE**

Condition	Product*/Rate
Soil P Index 2 with slurry/manure OR Soil P Index >2 without slurry/manure	Straight Nitrogen: Ammonium Nitrate (200kg/ha) OR Urea (140kg/ha)
Soil P Index 0 or 1 with/without slurry/manures or Soil P Index 2 without slurry/manure	N-P compound (250 kg/ha)