



Grass silage has a large nutrient demand and adequate N, P & K is essential for maximising grass yield and producing sufficient winter feed.

Nitrogen (N) is the key driver of grass yield. Grass swards with high levels of perennial rye grass will use N more efficiently than older swards. Recently reseeded swards (0-3 years) will have 25% higher N demand, especially when reseeded after a tillage rotation. A crop of grass silage (5t/ha of DM) will require 125 kg N/ha (100 units/acre). Grass silage will take up on average 2.5kg/ha/day of N (2units/day), therefore apply N at least 50 days before cutting to ensure full crop N utilisation. Make adjustment for fertiliser N applied for early grazing for example assume ~25% of N applied will be available for the silage crop. For example where 40 units/ac of N applied for grazing reduce N applied by 10units/ac for grass silage crop.

Phosphorus (P) and Potassium (K) are essential to maximise grass yields therefore adequate supply of these nutrients in the soil is critical. Consult the most recent (3 to 5 years) soil test reports to determine the P and K requirements (in organic manure and fertiliser) for silage fields. A crop of grass silage will remove approximately 4kg P and 25kg K /tonne of grass DM. Organic manures are an effective source of N, P & K and can provide a large proportion of crop P and K requirements at relatively low cost. Organic Manures Cattle slurry is the most common manure applied to silage fields and can vary in nutrient content depending on its dry matter (DM) content. Diluting cattle slurry with water is beneficial for ease of agitation and can help to improve the N availability in the slurry, however it will also dilute the P and K content of the slurry (i.e. a larger quantity of diluted slurry will be needed to supply the same levels of P and K as undiluted slurry).

**Table 1: Available N, P & K values for cattle & pig slurry**

	Available N, P & K (units/1,000 gals)		
Manure type	N	P	K
Castle slurry (7% DM)	9	5	32
Dilute cattle slurry (3,5% DM)	8	3	15
Pig slurry (4% S)	19	7	20

For example 3,000 gallons/ac of good quality cattle slurry (7% DM) will supply sufficient P and K levels to grow a crop of grass silage. Table 2 shows the recommended rates of N, P & K at different soil P & K indexes (1 to 4) required for 5t/ha grass dry matter (10 tonnes fresh grass / acre).

				SUGGESTED FERTILISER OPTIONS	
Soil Index	N kg/ha (units/ac)	P kg/ha (units/ac)	K kg/ha (units/ac)	No slurry (bags/ac)	+ Cattle slurry 3,000gal/ac
1	125 (100)	40 (32)	175 (140)	3.5 bags/ac 13-6-20 1.4bags/ac ProUrea	1.9 bags/ac ProUrea + S
2	125 (100)	30 (24)	155 (120)	3.5 bags/ac 13-6-20 1.4bags/ac ProUrea	1.9 bags/ac ProUrea + S
3	125 (100)	20 (16)	125 (100)	3.0 bags/ac 13-6-20 1.6bags/ac ProUrea	1.9 bags/ac ProUrea + S
4	125 (100)	0	0	2.5bags/ac ProUrea	2.5 bags/ac ProUrea

## Advice on fertilising grazing & silage paddocks

- Apply chemical N fertiliser at a rate of 35-40 kg N/ha in the form of 18-6-12 +S ( if you have P allowance/slurry not applied) or Pro. Urea + S when conditions allow this week on grazing ground. Some land will still be too wet, but aim to get your drier ground back on track
- April, May and June are the months that there is the highest response to chemical N
- There is still 40 days until 25th May so plenty of time to have 70 units N/acre taken up by the grass plant for 1st cut silage
- Avoid applying slurry on paddocks that have not been grazed/will not be grazed. Apply P & K in the form of 0-7-30 (2 bags per acre) (check with advisor for P allowance) & apply N with Pro Urea + Sulphur
- If it has been grazed/cut, apply dilute cattle slurry at 2-3000 g/acre & apply N with Pro Urea & S