



NUTRIENT WISE

Using Manures to Save on Fertiliser

The aim of this demonstration is to show how different types of manure can be used to save on purchased fertiliser for grass silage. It was set up on a grass ley from which a third cut of silage had just been taken. Based on soil analyses, the fertiliser recommendation (using RB209) for a 4th silage cut are:

kg/ha		
N	P ₂ O ₅	K ₂ O
80	0	40

The fertiliser requirements were met either solely from bagged fertiliser or from manure applications “topped” up with bagged fertiliser. A sample of each of the manures was sent off for analysis so that the amounts of N, P₂O₅ and K₂O applied could be calculated. The additional nutrients needed were then spread as bagged fertiliser a few days later. Even though spreading rates were low, all the manures provided phosphate and potash in excess of crop requirements so only additional nitrogen was needed to top up the manure treatments.

PLAN OF DEMO PLOTS WITH MANURE/FERTILISER TREATMENTS

HEDGEROW

→ FROM GATE

Plot 5:	Plot 4:	Plot 3:	Plot 2:	Plot 1:
Bagged fertiliser at 80. 0. 40	Dairy cow slurry spread via splash plate (22m ³ /ha) + 71kg/ha N fertiliser	Dairy cow slurry spread via trailing shoe (22m ³ /ha) + 66kg/ha N fertiliser	Dairy FYM (10t/ha) + 73kg/ha N fertiliser	Broiler litter (2.5t/ha) + 65kg/ha N fertiliser

PLOT ESTABLISHMENT

- Weather conditions on the day when the manure was applied were warm and sunny with temperatures reaching 20°C with a light breeze.
- Soil Temperature was 19°C
- Growth rate per day since the plots were established on 7th August has been approximately 65kgDM/ha/day.
- Nutrients were applied differently on the five plots using a range of manures topped up with bagged fertiliser as shown below:

	6% Slurry Splash Plate (22m ³ /ha)			6% Slurry Trailing Shoe (22m ³ /ha)			FYM (10t/ha)			Broiler Litter (2.5t/ha)			Bagged Fert		
	N	P	K	N	P	K	N	P	K	N	P	K	N	P	K
Soil Analysis (15 th May 2009)	med	3	2+	med	3	2+	med	3	2+	med	3	2+	med	3	2+
RB209 Recommendation for 4th cut silage 7t/ha	80	0	40	80	0	40	80	0	40	80	0	40	80	0	40
Available nutrients from manure	9	11	62	14	11	62	7	41	108	15	33	57	0	0	0
Nutrients applied from fertiliser	71	0	0	66	0	0	73	0	0	65	0	0	80	0	40