



Putting back in what you take off

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During periods of high grass growth rates, removing surplus grass as baled silage will help to keep good-quality grass in front of livestock and make some valuable reserves of good-quality silage.

When cutting a paddock for surplus baled silage, it is important to consider the amount of nutrients we are removing in the silage from this paddock. A typical bale of silage weighing 800kg fresh (200kg dry matter) contains 10 units of nitrogen (N), 1.6 units of phosphorus (P) and 10 units of potash (K).

Depending on the amount of bales/acre that are harvested, the amount of N, P and K removed can be substantial (Table 1).

In general, the N removed in the bales is not a problem, as N fertiliser will have been applied before cutting and applied again after cutting for the next grazing.

The P and K removed is what needs to be considered. For example, four to five bales/acre will remove around six to eight units of P/ac and 40 to 50 units of K/ac. This is important, as a rough rule of thumb is that 50 units

Table 1: Units of N, P and K removed per acre depending on number of bales per acre

Pre-cutting yield kg/dry matter/ha	Bales/acre	N units/acre	P units/acre	K units/acre
1,500	3	30	4.8	30
2,000	4	40	6.4	40
2,500	5	50	8	50

Table 2: Units of N, P and K applied per acre in slurry depending on slurry thickness and application rate

Slurry application rate	Dairy cow slurry			Thick slatted unit slurry		
	N	P	K	N	P	K
1,500 gal/acre	9	4.5	32	16	9	54
2,000 gal/acre	12	6	42	22	12	72
2,500 gal/acre	15	7.5	53	28	15	90
3,000 gal/acre	18	9	63	33	18	108

K/ac is enough to change a soil K index, ie to go from index 2 to index 3 or vice versa.

If no slurry and only straight N, such as CAN or protected urea, was applied before and after cutting the surplus bales, there will be a large shortage of P and K in this paddock.

Replenished

Farmers have found soil K indices to be low on individual paddocks on the milking platform where a lot of surplus bales are removed and K is not replenished.

Best practice is to apply slurry to these paddocks after cutting to put

back what was taken off. The slurry application rates and slurry thickness in Table 2 can be used as a guide.

Where slurry is not available, a P and K compound could be used, but you must ensure you have a P allowance before you spread P. Where you have no P allowance and no slurry is available to spread on these paddocks, a compound such as 19:0:15 is an option.

When making a choice to select one paddock among three or four paddocks to take out for bales, some farmers are selecting the paddock with the highest K index when everything else is equal.