



Slurry Management - assessing the diesel and electricity costs

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The basics

Slurry management can be an energy intensive business. Moving tonnes of waste from the farm and out onto fields is time consuming and expensive. However, it is possible to use more efficient material handling technology to reduce costs, especially where solid and liquid fractions can be split and umbilical or piped irrigation can be employed.

In practice

Farmyard waste usually has a high water content. Therefore traditional tanker based spreading systems use lots of energy carrying water from farm to field. It is therefore much better in terms of both time and energy if you can pump the liquid fraction and just spread a smaller tonnage of high dry matter solids.

Separating solids and liquids can either be done mechanically through a separator or using a 'weeping wall' in the waste store. Separators work well with slatted slurry systems that use mostly short chopped straw or no straw as bedding. Depending on the amount of liquid separation you want, there are a variety of systems available from run down screens to screw presses. The costs associated with operating a mechanical separator can be between £0.70 and £4.25 per tonne of slurry separated.

A weeping wall store on the other hand gets rid of the complication of mechanical separation but still produces a spreadable solid and a liquid which can be pumped.



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Potential savings

A 120 cow dairy unit can produce around 1800m³ of slurry and 1400m³ of wash water per year. Spreading this using a tanker would take approximately 350 hours, use about 3500 litres of diesel and cost approximately £2,100. Alternatively, spreading with an umbilical system would take around 40 hours, using approximately 1000 litres of diesel in total for the pump and applicator – and cost in the region of £600.



Separating this amount of slurry using a screw press type separator would remove approximately 200m³ of solids and cost around £70 per year in electricity. Loading and spreading the resulting separated farmyard manure (FYM) in this case would use around 160 litres of fuel, costing almost £100 (costs based on diesel at 60 pence per litre).

Replacing a mechanically driven pump for an electrically operated system to pump slurry from slurry store to field would use approximately 600kWh of electricity per year, costing around £60, plus applicator fuel costs (around £110).

A typical electrically operated pump, electric motor and variable speed drive (VSD) to control the motor would cost in the region of £10,000 for the farmer or contractor to purchase.

The reduction in labour and maintenance costs should also be taken into consideration.

For information on the costs associated with slurry scraping please see our factsheet entitled:

'Do automatic slurry scrapers save on energy use?'



For more information on slurry use please contact:

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