Elite Ground Products Information Note 1
Nutritive Value of Horse Manure

Organic manure is a valuable source of nutrients and their correct use can result in substantial savings in inorganic fertiliser use with reduced risk of causing environmental pollution.

Horse manure contains a source or organic nitrogen, phosphorus, potassium, magnesium and sulphur all of which are essential plant nutrients required for healthy grass growth.

The value of horse manure[1]

	Dry matter (%)	Total nitrogen (kg N/t)	Total phosphate (kg P205/t)	Total potash (kg K20/t)
Horse farmyard manure	30	7.0	5.0	6.0

Typical values on a fresh weight basis.

Not all nutrients in horse manure are readily available; only 60% of phosphate and 90% of potash from organic manure is available for plant uptake in the year of application, the remainder of the nutrients being held as soil reserves.

The availability of nitrogen is significantly less, for example with cattle farmyard manure only 10-20% of nitrogen is available in the year of application.[2]

Guidance on application

Organic manures should be used in accordance with the Defra Code of Good Agricultural Practice and where required with the specific regulatory guidance for the spreading of that material to land.

Application rates using the Rotary Muck Spreader[3]

Ground Speed	g/m^2	kg/ha	Tonnes/acre
1 mph	785	7,850	3.18
3 mph	950	9,500	3.85
5 mph	880	8,800	3.56

Typical values on a fresh weight basis. Application rates will vary according to the composition and dry matter of the material being applied. Application rates will increase with fresh wet material and decrease with old dryer material.

[1] Fertiliser Manual (RB209), June 2010.
[2] Fertiliser Manual (RB209), June 2010.
[3] Trials undertaken by Elite Ground Products, July 2011.

How much to apply?

The recommended maximum ground speed of 5 mph will apply 'on average' the equivalent of 3.5 tonnes per acre (8.6 tonnes/ha) per single application. For each field up to 6 applications could be made during the year which would apply a maximum of 21 tonnes per acre per annum.

	Total nitrogen	Value of nitrogen	Total phosphate	Value of phosphate	Total potash	Value of potash
Nutrients @ 3.5t/acre application	24.5 kg		17.5kg		21kg	
Value per application		£7.72		£7.52		£7.35
Nutrients @ 21t/acre application	147 kg		105kg		126kg	
Total value at 21t/acre (6 applications)		£46.30		£45.15		£44.10

Based on Nitrogen: £315/t, Phosphate £430/t and Potash £350/t.

How much is it worth?

At current fertiliser prices each 3.5t/acre application of horse manure is worth £22.59 or £135.55 for 6 applications.

What to avoid?

- Avoid applications of manure when ground conditions are unsuitable (wet saturated ground and very dry ground with visible fissures);
- Avoid applications on steeply sloping land adjacent to water courses;
- If you are in a NVZ (Nitrate Vulnerable Zone) make sure you comply with the mandatory regulations.

Benefits of utilising horse manure

The application of horse manure has the benefit of:

- Providing an organic and slow release source of essential plant nutrients;
- Reduces the need to purchase expensive artificial fertiliser;
- Will help improve grass quality and quantity;
- Will promote more even grazing and improve utilisation;
- Provide an economic and environmentally friendly way to dispose of horse manure without the need to transport it off site.

How often to apply?

You can apply as frequently as you like but you should not exceed a total application of 21t/acre[4] which equates to an 'average' of 6 applications at 5 mph using the standard data provided by Elite Ground Products Ltd.

[4] Based on a maximum field limit of 250kg/ha of Nitrogen.