A Garden Organic Activity Sheet

Soil improvers application rates

The table below gives an idea of how much of each soil improver you could apply, on average. Some composts will be richer than others and manures that have been out in the rain for months will contain fewer plant foods than those stacked under cover. The main message is 'Don't be too lavish with the nutrient rich materials'. If you add too much at once, much of the goodness it contains may be washed out before the plants can use it. For crop nutrient requirements please see table overleaf.

Material	How to apply?		When to apply?		Average rate of application	Soil structure improver?	Provides plant foods?
	Dig in?	Mulch?	Growing season?	All year round?			
Garden compost (mixed ingredients)	Yes	Yes	Yes	No	2 barrows full per 10 sq metres per year	Short and long term	Short and long term
Municipal compost (primarily prunings)	Yes	Yes	Yes	Yes	2-3 barrows full per 10 sq metres per year	Long term	Mainly long term
Well rotted strawy animal manures	Yes	Yes	Yes	No	1-2 barrows full* per 5 sq metres per year	Short term	Short and long term
Straw	No	Yes	Yes	When soil is wet and warm	8-10cm (3-4in) thick	Not applicable	Potassium; long term
Leafmould	Yes	Yes	Yes	When soil is wet and warm	5-8cm (2-3in) thick	Short and long term	Very low and long term
Hay	No	Yes	Yes	When soil is wet and warm	8-10cm (3-4in) thick	Not applicable	Short and long term
Shredded Bark	Fine grades	Yes	Yes	When soil is wet and warm	5-8cm (2-3in) thick	Short and long term	Negligible
Organic mushroom compost	Yes	Yes	Yes	No	1 barrow full per 10 sq metres per year	Short term	Short term, very alkaline
*Higher figure if manure has been stored out in the open							

Applications of manure and compost should be targeted to the crops that can make best use of them. In this way the applications will not need to be made every year and heavier applications can be made on a more infrequent basis. The relative demands of various crops for the major nutrients is well known:

Crop type	Nitrogen	Phosphate	Potash
Potatoes	High	Low	Low
Brassicas	High	High	High
Alliums	Medium	High	Medium
Lettuces	Medium	Medium	Medium
Umbellifers	Low	High	Medium
Legumes	Very low	High	Medium

What does nitrogen do?

Nitrogen is needed for synthesis of all proteins in plants. These are needed for the synthesis of enzymes which control all the essential processes in any living organism (eg photosynthesis, respiration, growth).

What does phosphorous do?

Phosphorus is essential for the functioning of all plants: it is part of the process for manufacturing energy, and it is also a component of all cell membranes. Plants also need phosphorus for good root development.

What does potassium do?

Potassium is present in the solution of all plant cells and is important in regulating their water balance. It is also essential in the development of fruits including tomatoes and cucurbits. Plants that are producing fruit often benefit from a later potash feed especially those growing in pots that quickly exhaust their nutrient supply.