



Fact Sheet 04

Compost use in turf  
establishment and renovation

# Establish and maintain good quality grass with compost

Compost can be used in a variety of situations, including residential and commercial lawns, sports grounds, athletic fields and golf courses. Excellent results can be achieved when using compost both to establish and renovate turf.

## What is compost?

In the United Kingdom, compost is made from source separated plant materials mainly from parks and gardens. This material is processed under carefully controlled conditions to produce a high quality product, as defined by the British Standards Institution's Publicly Available Specification for Composted

Materials – BSI PAS 100 (2002). Compost conformity should be independently assessed and verified through a certification scheme such as that managed by the Composting Association. These composts are very different from wholly manure based composts, spent mushroom



## Compost characteristics

These are some recommended properties of a good compost for use in turf establishment and maintenance.

Parameters	Reported as (units of measure)	Recommended Range
pH	pH units (1:5 water extract)	7.0 – 8.7
Electrical Conductivity	$\mu\text{S}/\text{cm}$ or $\text{mS}/\text{m}$ (1:5 water extract)	2000 $\mu\text{S}/\text{cm}$ max or 200 $\text{mS}/\text{m}$ max for turf establishment 2500 $\mu\text{S}/\text{cm}$ max or 250 $\text{mS}/\text{m}$ max for turf establishment
Moisture Content	% m/m of fresh weight	35 – 55
Organic Matter Content	%, dry weight basis	>25
Screen Aperture Size	mm	25 Maximum for turf establishment 10 Maximum for general purpose top dressing 5 Maximum for fine turf top dressing
C:N Ratio		20:1 Maximum

It is important to ensure that the compost you use is the right quality. It should not contain any stones or physical contaminants and should be mature such that it helps support healthy plant development. Ask for a sample of compost before ordering to make sure that the compost you will receive is the required quality. Compost producers should supply details of recent chemical and physical analysis.



Moist compost also provides the following available nutrients (approximate amounts based on typical analysis):

Depth over an area	Cubic metres per 100m <sup>2</sup>	Cubic metres per hectare	Tonnes per hectare	Tonnes dry matter per hectare	kg per hectare		
					N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
0.6 cm 1/4 "	0.6	60	30	19	24	45	144
1.2 cm 1/2 "	1.2	120	60	38	48	90	288
2.5 cm 1"	2.5	250	125	79	100	190	600
5.0 cm 2"	5.0	500	250	158	200	380	1200

Note: composted kitchen or vegetable materials may have higher nutrient contents than those for composted garden materials.

By comparison inorganic fertilizers provide the follow nutrients:

Product	Analysis	Rate	N	kg per hectare	
				P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Potassium sulphate	48% K <sub>2</sub> O	35g/m <sup>2</sup>			168
Superphosphate	18% P <sub>2</sub> O <sub>5</sub>	70g/m <sup>2</sup>		126	
Ammonium Sulphate	21% N	70g/m <sup>2</sup>	147		
15:15:10 Spring turf		35g/m <sup>2</sup>	52	35	35
5:10:10 Autumn turf		50g/m <sup>2</sup>	25	35	35



Pitch renovation using compost by North Lanarkshire Council

## Benefits of compost

Compost contains slow release nitrogen plus other major and minor nutrients that can replace fertilizers, leading to reduced inputs. Unlike sand-based dressings, compost can retain nutrients and make them available to the plant for a longer period. Grass therefore remains green without excessive growth and so mowing frequency is low.

- increased root growth from slow release phosphate

- faster turf establishment
- improved turf density and colour from slow release nitrogen, iron and magnesium
- improved soil drainage
- increased water holding capacity
- reduced soil compaction
- reduced requirement for fertiliser and irrigation
- reduced nutrient leaching and increased soil cation exchange capacity

- higher nutrient buffering capacity
- plant disease suppression

Compost can suppress many turf grass diseases because it is a biologically active material. Studies carried out on golf courses and sports pitches in the USA and Canada have demonstrated a reduction in the severity and incidence of a wide range of turf diseases, particularly when applied as a top dressing or used as a root zone amendment.

## How to use compost

### Turf establishment

Compost should be applied at 25 – 50 mm deep and then incorporated to an approximate depth of 100 – 150 mm. The compost application rate will vary depending on the soil conditions, compost characteristics, and turf

species to be established. A soil analysis test is recommended to establish the quality of the site soil. Once incorporated, a proper seed bed should be established and the seed lightly brushed into the surface using a drag mat or rake. Turf may be applied directly on to the soil

surface either manually, or with specialised equipment. Once planting is completed, the area should be fertilised if necessary and watered on an ongoing basis to ensure adequate rooting.

### Turf topdressing

Compost can be used as a topdressing for all areas of turf, either as a component of a mix, or on its own. Compost can be blended with various other materials such as sand and loam to produce a product that matches requirements, especially closely mown fine turf and sand-dominated, free draining sports turf rootzones. Apply to the turf surface at a rate of 6 mm to 12 mm, brush in and water if necessary. Use the lower rate on sports turf and lawns

and the higher rate on low maintenance grass and roadside verges. Core aeration techniques can also be used. The compost should be moist but flowable to facilitate application.

### Divot repair

Divots can be fixed effectively using a blend of compost and grass seed mix. The compost contains nutrients and holds moisture, and the dark colour can help to absorb heat from the sun, speeding up germination in cooler periods.



## Site conditions

The site drainage must be adequate before planting takes place. Subsoils may need to be ripped to relieve compacted layers. This should not be done when the soil is too wet. Where soils are particularly low in nutrients

compost may be supplemented with a nitrogen fertiliser. Nitrogen in compost is mainly in a slow-release form and may not provide enough nitrogen in the first few weeks of growth.

## Look out for Certified Products

Composts certified compliant with BSI PAS 100 by the Composting Association have been monitored by this independent body. This provides further assurance of high product quality and an easy way to identify such products. Product properties are declared, and information included to enable product traceability – look for the certification mark. There are a number of composting companies that can supply quality assured compost manufactured to PAS100. For a list of certified suppliers, visit the WRAP website on [www.wrap.org.uk/publications/CertifiedCompostSuppliers.pdf](http://www.wrap.org.uk/publications/CertifiedCompostSuppliers.pdf) or call the WRAP Freephone Helpline on 0808 100 2040. Alternatively, contact the Composting Association on 01933 227 777.

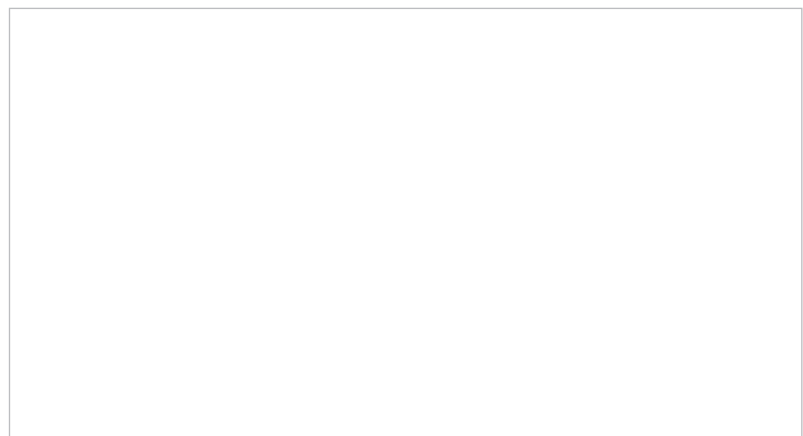


**WRAP (the Waste & Resources Action Programme) is a national Government programme established to promote sustainable waste management by tackling the barriers to waste minimisation and increased recycling.**

#### Waste and Resources Action Programme

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## Creating markets for recycled resources

