



# composting



LILI

## what is it?

It is the breakdown of organic (once alive) material in the presence of oxygen. Organic material can also decompose without oxygen, but this is slower and smellier, and is called anaerobic decomposition or digestion. The composting process involves many tiny organisms, including bacteria, fungi, insects and worms. These organisms utilise the two main components of organic waste – carbon and nitrogen – and work in a series of stages. Each group breaks down organic material a little more and converts it into a form suitable for the next stage to act upon. The end result is a beautiful crumbly compost that contains a mix of minerals that plants can absorb as nutrients. There are several composting methods:

- basic heap - a pile of material
- enclosed containers (e.g. tumblers) - stop weed seeds blowing in
- digesters - e.g. the Green Cone system
- fermentation - e.g. the Bokashi system, suitable for flats
- leaf mould - keep leaves separate; they take up to two years to break down but contain minerals from deep in the ground, that may not be found at the surface
- wormeries (also suitable for flats)

A heap (loose or contained) – is the most widely used and least laborious process. There are plenty of composters on the market, many at subsidised rates from your local council. You can also build your own from waste wood (e.g. pallets) and chicken wire.

**compost:** garden waste / grass clippings; veg peelings, waste veg, tea bags, coffee grounds, eggshells, fruit waste, including citrus peel; paper (best if scrunched up), cardboard, middles of toilet rolls, corks, matchsticks; human & pet hair; wood ash - contains potash (don't add too much though).

**compost with difficulty:** cooked food, meat, grease, bones, dairy produce - will attract vermin, but OK if you use the Bokashi method, Green Cone, wormery (only small amounts of animal products in a wormery), or if you make it vermin-proof with a strong container, car tyres, bricks etc; perennial or pernicious weeds - OK with Bokashi, Green Cone or wormery, or keep them in a bin liner until they are sludge, then add them to the heap; diseased plants - again, OK with the above systems; contents of



**compost bins:** you can make your own compost containers from waste wood such as pallets, or you can buy slatted wood containers like these (they look prettier). Note that there are two bins - one is added to until full, then it is allowed to break down while you fill the other one; when that one is full you empty the first one, and continue the cycle.

vaccuum cleaner - usually inorganic, but OK if you have a natural-fibre carpet; sanitary products - only if made from organic materials.

**don't compost:** dog / cat litter - can be pathogenic; coal ash - inorganic, won't break down; disposable nappies - contain inorganic materials; plastic, glass, metal, polythene - come on, you didn't really think you could?

## what are the benefits?

In nature, plants die and return to the soil, but when we grow food, we remove a crop - so we have to add something else if we want the soil to remain fertile, and the best thing is compost. It is a wonderful soil improver, rich in nutrients, organic material and essential microbes to help your garden flourish. Other benefits are:

Don't have to buy compost.

Don't need peat composts (destroy peat bogs).

Reduces waste sent to landfill, along with leachates, methane and fuel for trucks.

Reduces the need for garden bonfires (CO<sub>2</sub> emissions plus it's antisocial)

Improves soil structure

No need for chemical fertilizers

Makes your food taste better - chemical fertilizers are water-soluble, so when the plants take in water, they also take in fertilizer, and grow large and watery; compost is not water-soluble



You can compost your confidential papers instead of shredding them!

## what can I do?

The composting process will be quicker in a sunny area, and directly on to soil. Composters can be in the shade or even on concrete if there is drainage (add a few spades of earth at the bottom to introduce necessary micro-organisms), but the process won't be as fast.

It is important to include a roughly even mixture of 'greens' and 'browns'. Greens are high in nitrogen and include vegetable matter and grass cuttings. Browns provide carbon - examples are dead leaves, small twigs, paper and cardboard. These browns are very important, as they also provide the structure of the heap. Without them the heap would be too compact, oxygen could become depleted, and the heap could start to degrade anaerobically (resulting in a slimy, smelly end-product, giving off methane, a greenhouse gas). So remember, when adding material, do so in alternating green / brown layers very roughly 10cm thick.

Other forms of aeration can help. Traditionally this involves 'turning' the heap, but that can be hard work. Try pushing a broom handle through the centre of the heap and 'stirring' instead. Specialised tools for this task are available but

not necessary.

Your heap should have approximately 50% moisture content and the consistency of a wrung-out sponge.

If it is too dry, water it. If it is too wet, add more 'browns'.

By following these guidelines, you should have

compost formed at the bottom of your heap in about 6-9 months. If you're in a rush add nettles, comfrey leaves, chicken manure or urine (compost accelerators). Or you can shred your material (but it uses energy).

If you want to help others to compost more effectively, or set up a community site, look out for Master Composter training courses. These are often run by your local authority and are free. All they ask in return is that you spend 30 hours of your time promoting home composting. For more complex composting strategies, see some of the books and websites below.



*if you buy compost, make sure you don't contribute to the destruction of peat bogs - buy peat-free compost, like this one.*



*fresh organic matter recently added to the top of a compost bin - you can see fruit and vegetable peelings, eggshells, weeds, straw, paper and cardboard.*

## resources

- these books (and more) available from LILI:
- Nicky Scott, 2005, *Composting: an easy household guide*, £4.95
- Pauline Pears, 1998, *All About Compost*, £7.95
- Martin & Gershuny, *the Rodale Book of Composting*, £9.99
- <http://www.compostguide.com> - wealth of information on composting
- <http://www.communitycompost.org> - advice and support for community compost groups
- <http://www.greengardener.co.uk/bokashi.htm> - bokashi composting info and kit
- <http://www.greencone.com> - green cones
- <http://www.homecomposting.org.uk/content/view/21/36> - master composter training

Contact us or visit our website to find out more about our factsheets, manuals & books, residential weekend courses, presentations and shop. You can also become a 'Friend of LILI', and receive our biannual newsletter, discounts on our courses, and help us to make a difference.

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