

Making Good Compost

How does composting work?

Composting is a natural process that turns organic material (things that were once living) into rich soil-like material called compost. The organic material is broken down by microorganisms such as bacteria, fungi, insects and worms and by chemical reactions. The process generates heat as decomposition takes place, and the more heat that's generated, the faster decomposition occurs!

To work properly, composting needs lots of air and moisture. The composting process is known as 'aerobic decomposition', which means decomposition in the presence of air. If this happens without the presence of air, it is known as anaerobic decomposition. It's this type of rotting that produces bad smells and a slimy, smelly mess rather than good compost.

There needs to be a good balance of carbon and nitrogen for the material to be composted well. Too much of either one will result in poor compost. Carbon rich material is known as 'brown' stuff. Nitrogen rich material is known as 'green' stuff. Why? Because they are often that colour! For example lawn mowings, soft plant clippings and kitchen scraps are high in nitrogen, they are 'green' stuff. Straw, hay, sticks, paper and cardboard are high in carbon, and are 'brown' stuff.

How to make good compost

A good compost heap is like a good sponge cake: light, moist, made of layers and full of lots of different flavours! Keep that in mind and you won't go far wrong. When you start your compost bin or heap, find a sunny spot in the garden on well drained level ground. Fork the soil over lightly, then put a layer of scrunched up or shredded paper on the ground. There are two types of material called 'green' and 'brown' which need to be added in roughly equal amounts. Add a layer of green material over the paper, and then some brown material over that. When adding woody material and leaves try to shred them if possible - the smaller the better. It's really important to aerate the heap or bin, so the addition of shredded or scrunched up paper is vital if the rest of the contents are dense or finely chopped (such as grass cuttings or material that has been through a garden shredder).

If the material is quite dry, water it a little. If it's very dense and compacted or very finely shredded, add some more scrunched up paper or ripped up cardboard to keep air pockets in the mix. Continue to build the levels up making sure you keep them light, spongy and moist. You can also add a few handfuls of soil, some well rotted compost from another heap or some horse manure if you have access to any. This will encourage the helpful microorganisms to colonise your new heap very quickly.

To keep the heap moist and warm, water it then cover it with plastic or put a lid on it. Remember the composting material needs to be moist throughout, not just on the top - but it doesn't want to be soaking wet!

A good heap will start to heat up as all the rotting process takes place. The hotter it is, the faster it rots and some heaps will reach 70 Celsius if they are big enough and have the right materials in them.

What is Green Stuff and Brown Stuff?

Green Stuff is high in nitrogen

- Grass clippings
- Fruit and Vegetable waste
- Soft weeds, pruning's and pondweed
- Animal droppings
- Old leaves

Brown Stuff is high in carbon

- Paper and cardboard
- Straw and hay
- Kitchen towels
- Egg boxes
- Woody hedge trimmings
- Tough woody plants

What can I compost?

YES - compost this

- Grass
- Hedge trimmings
- Dead flowers
- Cut flowers
- Pond weed
- Some weeds
- Apple cores and banana skins
- Vegetable and fruit peelings
- Small amounts of bread
- Tea bags, tea leaves and coffee grinds
- Vacuum cleaner dust
- Sawdust
- Leaves
- Egg shells
- Kitchen towels
- Scrunched up or shredded paper (great for adding air spaces too)
- Ripped up cardboard
- Paper egg boxes (great for adding air spaces too)
- Old bedding plants
- Horse manure (great activator!)

NO - don't compost this

- Dog and Cat waste
- Metal
- Plastic
- Glass
- Tins and cans
- Meat and bones
- Fish remains
- Really woody sticks, logs, or large timbers
- Rubble and stones
- Coal ash
- Diseased materials
- Pernicious weeds e.g. bindweed horse (mares) tail, crab grass
- Citrus fruit

How long does it take to make compost?

It can take anything from a month to a couple of years to turn your waste into compost. It depends on the types and quantities of materials used, the temperature, moisture and amount of air in the mix.

Fast compost is Hot compost.

If you want to make compost really quickly, you need to put in a lot of effort and you need a large amount of material to start with. Hot composting needs more than a cubic meter of material before it becomes viable (the more the better in fact) and works best in a cubic wooden container or open heap.

If you make a large compost heap or bin as described on our 'how to make compost' page, all at once, it will start to heat up very quickly. Within a few days it will reach high temperatures (up to 70 Celsius), but pretty soon afterwards it will start to cool down.

This is when the effort is required. You need to mix the compost well by turning it over. This adds a fresh supply of air to the system to boost the rotting process. You might need to add some water too. This process needs to be repeated a few times to ensure all the material decays quickly. It will take between one and two months to produce compost this way. The resulting compost is a light, brown, earthy substance. It will still have unrotted brown material in it (small sticks and plant stems) so you might need to sieve it before use.

The advantages of hot composting are a quick production of compost and, because of the high temperatures reached in the heap, partial sterilisation of the compost (note that although the heat kills off most weed seeds and plant diseases, it doesn't kill them all off). Most large scale commercial composting is carried out this way.

Slow compost is Cool compost

If all that sounds like too much hard work, or you simply don't have enough material to do a 'hot rot', there is another way. Cool composting takes a little longer to produce results and is ideal for the small scale gardener using a compost bin. You make the mix in the same way, with layers, a good green/brown mix, moisture and air, but you can add the layers slowly as material becomes available. The material will still heat up, but usually to about 30 Celsius or so. This isn't hot enough to kill off as many weed seeds or diseased plants, so be careful of what you put into it.

One advantage of cool composting is that the lower temperatures mean more worms can survive in the material, which in turn means you will get a finer end product. It might take six months to a year to get good results this way. You can always attempt to speed the process up if you get lots of good material at once - simply mix it with the existing material to get it aerated. Water it if needed then sit back and watch!

Additives to make better compost

You can add commercially available compost 'activators' to speed up compost production. These are usually mixtures of naturally occurring microorganisms that speed up the decomposition process. You can also add your own activators. A couple of handfuls of soil now and then will supply your heap with extra microorganisms. Horse manure is a great activator as it contains a wide range of beneficial microorganisms. You can also add some well rotted compost from another heap to kick start a new heap.

Some compost experts recommend the addition of composting worms (these are 'brandling' or 'tiger worms', not common earth worms) which can be bought in some fishing shops, at garden centres, over the internet or dug up from another heap. Be careful if you are adding worms - they will not be happy in a hot heap!

The effect of seasons

Composting slows down over the winter. The lower temperatures cause the Micro-organisms to slow down, and chemical reactions slow down as well. Additional winter rain can also saturate a compost heap, so try to keep a heap covered over during the winter.