Composting for Gardeners

garden organic

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Garden Organic (formerly known as HDRA - the Henry Doubleday Research Association) is the UK's leading organic growing charity. We have been at the forefront of the organic horticulture movement since 1958, with over 20,000 members across the UK and overseas.

Dedicated to promoting organic gardening in homes, communities and schools, the charity encourages people to grow in the most sustainable way, and demonstrates the lasting benefits of organic growing to the health and wellbeing of individuals and the environment.

For more information please visit **www.gardenorganic.org.uk.**

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Why make compost?

Compost is nature's black gold. It will help you grow healthy plants. And making it yourself reduces pollution, supports the natural environment, saves money and protects endangered natural habitats. How? By recycling your garden debris and kitchen scraps. It's as simple as that. This book will tell you what to compost, how to make it, and how to use it.

Compost makes your garden grow

Compost, a rich soil-like material, works wonders in the growing area. It

- lightens and breaks up heavy soils
- bulks up light sandy soils and helps them hold more water
- feeds plants and other vital soil organisms
- helps control diseases

Compost saves you money

Home-made compost helps cut down on buying garden products. It acts as a

- soil improver
- fertiliser
- mulch

Compost helps reduce pollution

Making compost contributes towards a cleaner environment. It

- reduces the need for bonfires
- cuts down on waste sent for disposal
- saves buying manufactured and packaged products

Home-made compost saves wildlife

If you buy compost in bags, you are getting something very different. Most commercial compost includes peat. The extraction of peat is causing the destruction of fragile and ancient habitats, and threatens the rare plants and animals that live there. 94% of the UK's lowland peatbogs have already been damaged or destroyed. Make your own compost and you not only save money, you save these rare wildlife environments.

What can I put into my compost heap?

Put simply, the compost process is the rotting down of organic material. This section gives you some ideas on what, and what not, to add to your compost heap to get the perfect 'mix'.

Some things, like grass mowings and soft young weeds, rot quickly. They work as 'activators', getting the composting started, but on their own will decay to a smelly mess. Older and tougher plant material is slower to rot but gives body to the finished compost.

Woody items decay very slowly; they are best chopped or shredded first.

For best results, use a mixture of types of ingredients listed overleaf. A good rule of thumb is to mix equal amounts of 'green' material with 'brown'. Keeping it moist, using water from a water butt, during a dry period will help the rotting process.

Greens

- comfrey and nettle leaves
- grass cuttings
- poultry manures
- young weeds and any weed foliage (not roots or seeds)
- raw fruit and veg scraps
- old flowers and bedding plants
- vegetable plant remains
- young hedge clippings
- soft prunings

Browns

- old straw
- autumn leaves
- tough hedge clippings
- woody prunings (already shredded)
- sawdust and wood shavings
- wood ash
- cardboard
- paper towels, bags and packaging
- cardboard tubes and egg boxes
- junk mail
- scrunched up newspaper

Greens and Browns

- tea leaves and coffee grounds
- straw-based manure
- gerbil, hamster, rabbit and other vegetarian pet bedding

Do not compost

- meat, fish and dairy products
- cooked food
- coal and coke ash
- cat litter
- dog faeces
- disposable nappies

Items for the compost heap

Autumn leaves

Mow leaves on a lawn to chop and collect them up. This helps them to break down. Add them to the compost heap mixed with grass mowings and other soft green materials. If you have a lot of leaves, stuff them whole or chopped into black plastic sacks to make **leafmould**. They'll be ready to use after a year or two.

Grass cuttings and other green leaves

These will turn into a slimy mess unless they are composted together with some browner materials like cardboard, scrunched up newspaper or autumn leaves. Leaves from comfrey and nettle plants are quick to rot and add vital minerals to the heap. You can also add dying foliage from vegetable plants such as beans and brassicas, as well as the foliage from perennial weeds.

Perennial weeds

To kill the roots of perennial weeds such as celandine, buttercup, ground elder and bindweed, you need a very hot compost heap (see *p.13*). In the usual cool domestic heap or bin, you need to take extra action to process their mineral rich roots. Either drown the roots by soaking them in a bucket or black bin for weeks until they have fully rotted – then add the fluid to the heap. Alternatively, shred or mash the roots, mix with grass mowings in a plastic sack, and leave for 6 months until the weeds are no longer recognisable. Then add to the compost heap.

Hedge clippings and prunings

Chop or shred tough prunings and clippings from hedges before adding to a mixed compost heap. If you have large quantities rot them separately; even unshredded they will rot eventually. To do this, mix with grass or other activating material; water well. Tread down the heap, then cover. In anything from a few months to years you will have a coarse mulch which can be used on perennial beds.

Animal manures

Straw-based horse and cattle manure composts well – as does chicken manure. If the manure is mixed with wood shavings it should be left to rot until the shavings are no longer visible. If it is dry, water well and mix with grass mowings or other green activating material.

Paper products

Newspaper can be added to a compost heap as can cardboard, cereal or egg boxes and toilet roll tubes. Always scrunch up flat paper and card to help keep air in the compost heap. This helps the aerobic rotting process.

Kitchen and household waste

Raw fruit and vegetable peelings and uncooked food are good compost ingredients. Plus egg shells, tea leaves and used coffee grounds. Avoid meat, fish, dairy products and cooked food, which are more likely to attract rats and flies, unless you have a specialised composter, such as an enclosed hot composting system. Cat and dog faeces can contain dangerous pathogens and should not be composted at home. Likewise, coal and coke ash contains many impurities and should not be composted. Wood ash is fine.

Choosing a compost bin and where to put it

Compost can be made in a simple heap on the ground. However, most people use some form of compost container. This looks neater and easier to manage. Compost bins can be home-made or purchased, low cost or expensive – the choice is yours. They can be made of wood, plastic or other materials, preferably recycled.

The ideal compost bin is easily accessible, has no gaps in the sides and has a lid or cover. It is located in a sunny or semi-shaded position, directly on the soil or turf, away from water-courses. You may even find you need more than one!

What is it made of?

A compost container should keep rain out, and moisture and heat in. For a compost heap, wood (preferably recycled) is the most commonly used material. Most bins on sale are plastic (check it is made from recycled material). You will find ideas for making your own container on the following pages.

How strong is it?

A sturdy container is essential. It will have to withstand battering with forks and spades as you fill and empty it.

Gaps in the sides?

Opinions differ widely on this question, but most compost heaps have solid sides these days. Gaps in the sides of a container or heap are said to be essential to allow air in. In fact they often let the compost dry out at the edges. Turning the heap will ensure enough air is usually mixed in.

Weight

If you have a bin, and you have to lift it off to access the compost, make sure it is not too heavy. On the other hand, if the bin is too flimsy it may blow over, and will not last long.

Size

Most bins on the market are around 300 litres – which is good for the average household and garden. Choose the largest container you think you can fill. Check the height – some models are too tall for many people to use comfortably.

Lid and base

A lid isn't necessary for a bin. Trials have shown it makes little difference to the speed of the composting process, but many people like one for aesthetic reasons. It should also be easy to remove and replace, and should not easily blow away. Compost boxes are usually open at the bottom to allow the compost, which may produce quite a lot of liquid, to drain.

Access

The top opening should be large enough to take a fork full of green waste comfortably. For turning, or extracting finished compost, a removable front is ideal; alternatively simply lift the whole container off.

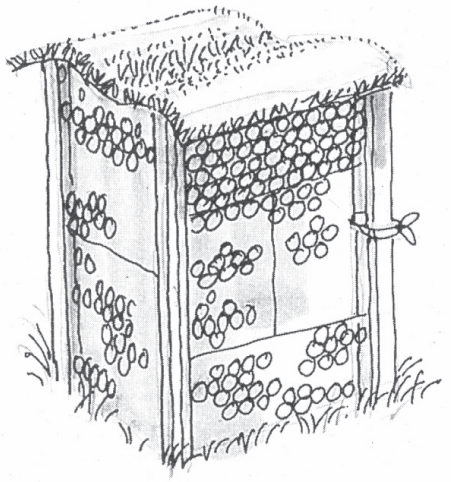
Where to put it

If possible, place your compost bin straight on the ground, rather than on concrete or other hard surface. This allows for drainage and lets worms move in easily. It should have space around it for storing and mixing ingredients, and for turning the compost. You may choose to have a permanent site, or to move the bin(s) around the garden. The ground where a compost heap has been will be very rich.

Compost bins

Wire mesh with cardboard

Cheap and easy to make. Drive four posts into the ground, then staple wire mesh to them. Make it easy to open one side for access. Line with cardboard cartons, and top with a plastic sack.

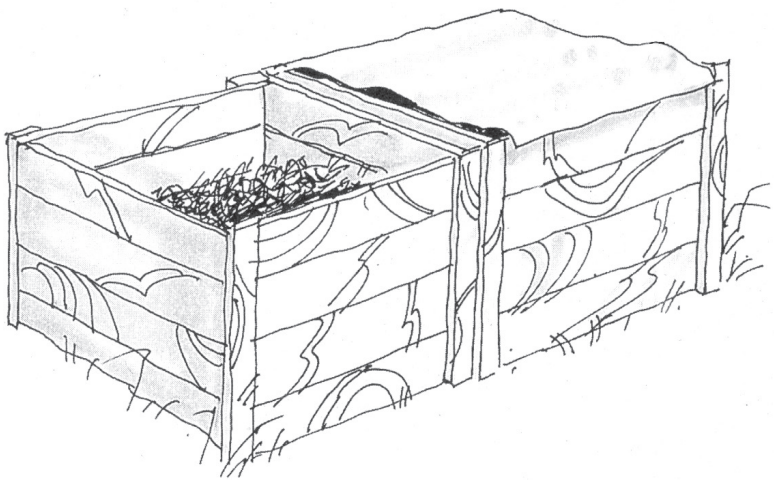


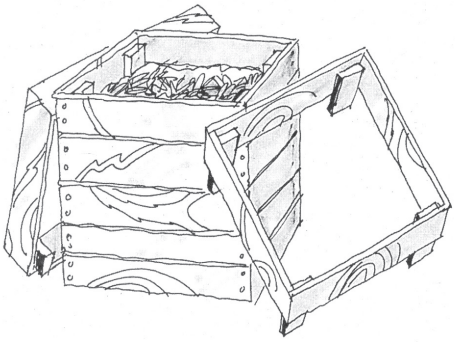
Old dustbin

Cut the bottom out of a large, plastic dustbin; turn it upside down and use the lid on top.

Double New Zealand box

Two strong, static boxes with a removable slatted front. The second bin can be smaller, to take the reduced volume of material that is turned out of the first bin. You can make this yourself, alternatively there are recycled plastic versions available online.



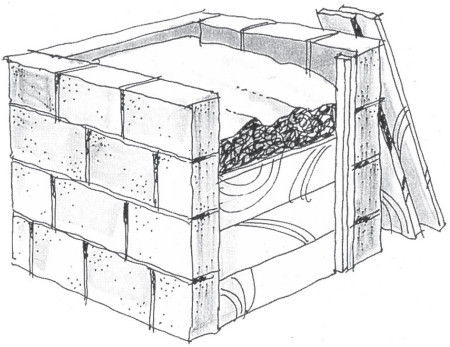


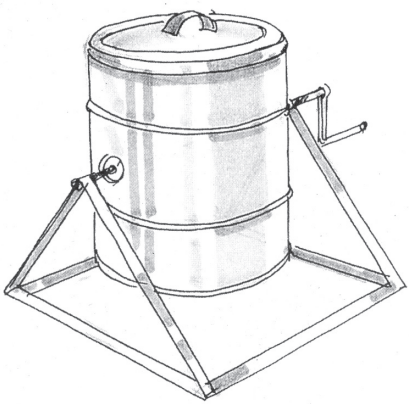
Sectional wooden bin

Sections are stacked up, or removed as required. Individual sections can be made out of different widths of wood. Easily moved.

Breeze blocks with wooden slatted front

A sturdy bin can be built out of recycled breeze blocks. A wooden front that can be removed makes for easy access.





Compost tumbler

This is designed to be turned every day. The regular mixing and aerating can make compost quickly, in three to four weeks.

Bins to buy

If you want to buy a bin, there is a good selection available. Your local council may sell them, alternatively **The Organic Gardening Catalogue** *(www.organiccatalogue.com)* can supply and there are a number of recycled plastic options available online.

Making compost

You can make compost simply by adding compostable items to a heap or bin when you feel like it. It may take up to a year to produce useable compost but it doesn't require much attention. You don't need to turn the material, but it will speed up the process if you do.

A Cool Heap

Most gardeners find this the easiest route to making their own compost. It requires little work, just adding to the heap or bin over time, until it is full. Then allowing the contents to rot and settle down gradually. Cool compost rarely achieves a heat above 60°C, therefore it won't destroy weed roots or seeds.

Step 1. Collect together a batch of compost materials such as weed foliage, lawn cuttings, plant trimmings, kitchen veg and some paper. You need a layer of at least 30cm or more. Aim for a mix of 'green' ingredients and 'brown' items (see *p.4/5*). This helps to give the heap some structure and maintains air within it, reducing the need for turning the material.

Step 2. Start filling the bin. Spread the ingredients out to the edges and firm them down gently. Alternate 'green' and 'brown' items, or mix them together first. Water well through the layers.

Step 3. Continue to fill the container as and when you have suitable compost ingredients. Items can be added individually, but a bigger batch is preferable; for example, a pile of vegetable peelings from a kitchen caddy. Spread the ingredients out to the edges.

Step 4. When the container is full – which it may never be as the contents will sink as it composts – stop adding any more. You can then leave it to finish composting for anything from 6 months to a year, depending on the contents, the container, the weather or ambient temperature.

Step 5. If you have a heap, you can now remove the compost. If some of the top layer is still not broken down, add it to the new heap. If you have a bin, remove it and extract the lower layers of compost to use in the garden. The remainder – which might not have rotted down – can be put back in the bin, with water if it is too dry.

A Hot Heap

If you are in a hurry for compost then a 'hot' heap may be better for you. It requires more attention and physical effort than the 'cool' heap route, but the higher temperatures during the rotting process will destroy most weed roots and seeds.

Step 1. Gather enough material to fill your compost container all in one go. Make sure you have a mixture of green and brown materials.

Step 2. Chop up tough items using shears or a sharp spade (lay items out on soil or grass to avoid jarring) or a shredder.

Step 3. Mix ingredients together as much as possible before adding to the container. In particular, grass mowings that tend to settle and exclude air need to be mixed with more open items such as scrunched up paper and cardboard egg boxes. Add water as you go.

Step 4. Within a few days, the heap is likely to get hot to the touch. When it begins to cool down, or a week or two later, turn the heap. Remove everything from the container and mix it all up, trying to get the outside to the inside. Add water if it is dry or dry material if it is soggy. Replace in the bin.

Step 5. The heap will heat up again; the new supply of air you have mixed in allows the fast acting aerobic microbes, i.e those that need oxygen, to continue with their work. Step 4 can be repeated several more times if you have the energy, but the heating will be less and less. When it no longer heats up again, leave it undisturbed to finish composting. A hot heap can take as little as 6 weeks to produce ready to use compost.

When will my compost be ready?

When the ingredients have turned into a dark brown, earthy smelling material, the composting process is complete. You can leave it for a month or two to 'mature' before using it. Don't worry if your compost is not fine and crumbly. Even if it is lumpy, sticky or stringy, with bits of twig and eggshell still obvious, it is quite usable. It can be sieved before using if you prefer. Any large bits can be added back into your new compost heap.

Composting questions answered

What is garden compost?
Compost looks like rich, dark soil. It is made of recycled kitchen and garden wastes. It is used to feed and condition the soil as well as in potting mixes.

Is it the same as multipurpose compost bought in a bag?
No. Sowing, potting and multipurpose composts bought in garden centres, are mixtures of various materials such as loam, sand, coir and fertilisers. These are used for raising seedlings and growing plants in pots. Many contain peat – always ask for 'Peat Free'.

Do I have to be an expert to make compost?
No. Composting just happens, it is nature's way of keeping our planet clean. Just follow the few basic rules in this booklet.

Is it a lot of work?
Making compost can be as easy as putting some paper and vegetable scraps onto a compost heap, and letting nature do the rest. Or you can put a lot of effort into it to create a hot heap which rots faster (see *p.13*). It's up to you.

How long does it take?
Compost can be made in six to eight weeks via the hot heap. Or it can take a year or more in cooler conditions. In general, the more effort you put in, the quicker you will get compost. Heaps are also dependent on ambient temperature – cold weather will delay the rotting process.

Can I put diseased plants in my compost?
Plants with persistent diseases, such as white rot and clubroot, should not be added. A hot heap (see *p.13*), turned several times, should deal with everything else. Diseases that don't need living plants to survive will be killed by the microbial activity.

Can I add weed seeds?
Weed and grass seeds will unfortunately survive a cool heap (see *p.12*), but should be killed in a hot one.

Is it true I can add urine to my heap?
Yes, human urine will act as an activator to help the rotting process.

I've got a lot of worms in my compost. Is that a good thing?
Yes, these worms are usually *Eisenia foetida* (brandling or tiger worms). They help breakdown the rotting material by digesting and secreting it.

Will a compost heap breed pests?
Compost is made by a host of small and microscopic creatures. These are not pests and they will not overrun your garden.

Will a compost heap attract rats or foxes?
Rats and foxes may visit a compost heap if they are already present in the area. If you visit the heap regularly they will move away. It is important not to add meat or cooked food to the heap.

Does a compost heap smell?
A working compost heap should not have an unpleasant smell if you stick to the listed ingredients.

Do I need any special equipment?
See *p.10* for ideas on how to make a compost heap or buy a bin. They will keep everything neat, conserve heat and moisture. A garden fork is the only essential item. A shredder can be very useful where there is a lot of woody material to be composted, but it is not essential.

Is compost safe to handle?
Yes, if the usual garden hygiene rules are followed. Keep cuts covered, wash hands before eating and keep your anti-tetanus protection up-to-date.

Will it attract flies?
As long as meat scraps are not put on the compost heap, it should not attract houseflies or bluebottles. Tiny fruit flies may be present in the summer, especially if the heap is too damp. They are attracted to the fruit and vegetable peelings. But these flies are more of a nuisance than a problem. They can be deterred by covering fresh materials with a thin layer of soil, newspaper or finished compost.

Does a compost heap have to get hot?
No. A medium sized compost heap can heat up to 70°C in a few days. The heat helps to make quicker compost, and to kill weeds and diseases. But your compost may never heat up, especially if it is made over a long period. The compost can be just as good, but it will take longer to be ready for use.

Does compost spread weeds and diseases?
Be careful what you add to the heap (see *p.6*). It is true that some weed seeds and roots will survive in a cool compost heap (see previous page) and some diseased plant material is best avoided altogether in a compost heap.

Using compost in your garden

When the compost is dark brown and has an earthy smell the composting process is complete. It is then best left for a month or two to "mature" before it is used. Don't worry if your compost is not fine and crumbly. Even if it is lumpy, sticky or stringy, with bits of twig and eggshell still obvious, it is quite usable. It can be sieved before using if you prefer. Any large bits can be added back into your new compost heap.

How much to use

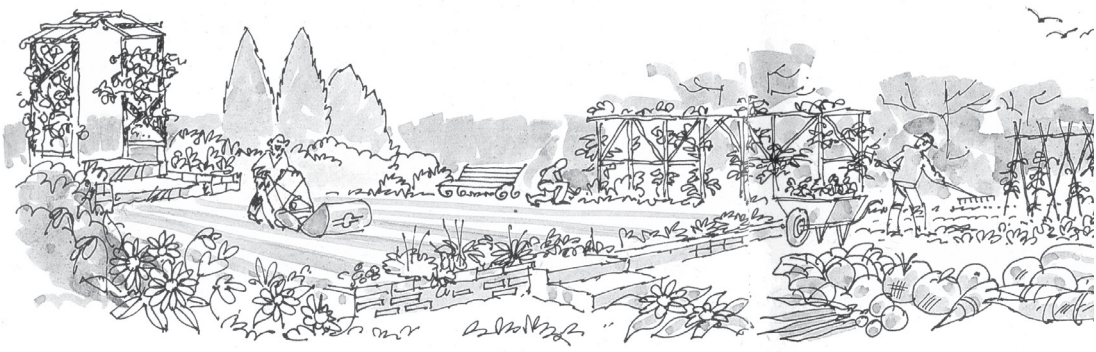
As a rough guide, use one wheelbarrow full of compost per five sq. metres of ground. This should be ample for one season, or for a crop that likes a rich soil.

When and how

Compost should be applied in the spring and summer. It is either dug into the top 15–20 cm of soil (no deeper) or left on the surface as a mulch that keeps in moisture and suppresses weeds. Compost can be used on all soils where feeding and conditioning is required. It isn't a quick fix, instead the nutrients are released slowly over time.

Herbs

Use compost where succulent herbs – such as chives, parsley and mint – which need a good supply of food and water, are growing. Do not use on herbs that prefer a poor, dry soil, such as thyme and rosemary.



Shrubs and herbaceous perennials

A compost mulch applied every three years should be ample for most shrubs. Roses, that are pruned hard every year, may need an annual application.

Annual flowers

There is no need to apply compost if the soil is already in good condition and texture. Too much feeding tends to encourage leafy growth at the expense of flowers.

Vegetables

Most compost should go to beds growing potatoes, tomatoes, brassicas and other leafy crops, leeks, pumpkins and courgettes. If you alternate areas where these crops grow year on year (this is known as crop rotation) it means that the whole vegetable plot will have received compost over successive growing seasons.

Fruit

For strawberries, add compost to soil before planting. Apples, plums, pears, cherries, redcurrants, gooseberries: mulch with compost every four to five years. You can add compost more frequently if growth is poor. Blackcurrants, raspberries and hybrid berries: mulch with compost every three years.

Lawns

In spring or summer, add a fine compost that has been sieved.

Tubs and planters

Garden compost should be mixed with other ingredients if it is to be used for container growing. Depending on the needs of the plant, it should be mixed with loam/soil and grit (for drainage). Pots already planted up should have the top layer of soil removed in spring, and replaced with compost. For seedlings or potting plants, use two parts of compost with one part of loam/good soil and one part leafmould.

Notes

About Us

Garden Organic is the authority on all organic gardening matters.

Since 1958 we have researched, promoted, campaigned for and supported organic growing. We provide practical advice – from seed to harvest, from soil preparation to slug management. Visit **www.gardenorganic.org.uk/growing-advice** for inspiration and advice.

Research. Formerly known as HDRA (the Henry Doubleday Research Association), Garden Organic works in partnership with Coventry University – The Centre for Agroecology, Water and Resilience (CAWR), based at Ryton Organic Gardens.

Education. Our education programmes help teachers and school professionals to develop gardening projects that teach children where their food comes from, develop their scientific and environmental awareness and encourage them to eat more fruit and vegetables.

Healthy communities. Gardening and growing can help reduce stress, increase well-being, and provide non-pharmacological support for those in challenging circumstances. Garden Organic works with care providers, prisons and schools. We have over 500 Master Gardeners across the UK, who support individuals to grow food in their gardens, allotments, windowsills, workplaces and other community growing spaces.

Our heritage. At Garden Organic, we are dedicated to preserving our valuable organic heritage. We run The Heritage Seed Library which conserves local vegetable varieties that are not widely available. We work with sister gardens across the UK to support and promote organic growing.

How to Support Us

Garden Organic's goal is simple – to get more people growing organically. You can help by becoming a supporter. Either by a donation, or by becoming a member. Membership benefits include on-hand advice and support from our experienced team, free access to affiliated gardens and up to date news on organic gardening issues.

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Compost is the grower's black gold. It feeds the soil and gives it good structure. It also keeps plants healthy and nourished. It's easy to make, and it's free!

This book will help you to create your own compost – the organic way.

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