

Peat-free Growing

How to garden without using peat

Garden Organic is fighting to ban peat in horticulture. Can you help us?

FOR PEAT'S SAKE

Over 95% of the UK's peat bogs have become degraded or destroyed. This not only wipes out these rare ecosystems – wild areas which are home to a wealth of plants, birds and insects – but also rapidly increases our carbon emissions.

For nearly 30 years the horticultural industry has ignored targets to promote and use alternatives in potting composts. Not only have they delayed to find peat alternatives, but they claim there is no public demand for it. We want to put an end to that and remove peat from horticulture, for good.

Join our campaign – For Peat's Sake.

- Go peat-free in your own growing
- Share our messages in your local community
- Ask your local garden centre if they sell peat-free plants and bagged compost. If not, why not? Hand them a letter asking that they stock peat-free
- Write to your local MP and DEFRA.

We believe that if gardeners are provided with the facts, they will readily swap their peat-based compost for homemade or peat-free.

For Peat's Sake – for the planet's sake.

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.

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



Garden Organic is a registered charity in England and Wales (298104) and Scotland (SC046767). VAT no. 258 0869 69

What is peat?

Peat comes from special wetland landscapes known as moors or peat bogs. It is an accumulation of partially decayed, ancient organic matter - made up of plants such as sphagnum moss and tufted bog cotton. It takes 1000 years to form just one metre of peat soil.

Peat bogs and moorland offer a rare experience of wilderness, solitude and inspiration. They are evocative of bird song, windswept fresh air, rare mosses and clear, clean water. In the words of the Scottish Government, they “contribute to making human life both possible and worth living.”



Why are peat bogs important?



They are a very specialised ecosystem. With their wet habitat, many peatlands have been growing undisturbed for thousands of years. They are home to a wealth of rare plant, insect and bird species – and crucially, they hold nearly 30% of all the carbon stored on land. That’s more than twice the amount stored in forests across the world.

By storing carbon, peat bogs help reduce greenhouse gasses. It is these gasses which drive global heating, causing the climate emergency.

On a more practical level, the bogs are a flood defence and water clarification system. Archaeologists use peat bogs as time capsules. Pollen and other plant material, which has been held in the bog for thousands of years, tells us about climate and wildlife conditions of our ancestors. Destroying the bogs through peat extraction is like tearing up our history books.



Why is peat so popular with gardeners?

Although it isn't fertile itself, peat is an efficient nutrient carrier. With synthetic fertilisers added, it creates a growing medium which helps plants thrive. Peat also holds water, to keep plants irrigated. And it is light, so it's easily transported and good for pots and hanging baskets. All these features make it ideal to use in bagged composts.

The gardening industry has relied on peat since the 1960s. Their extraction of vast quantities to put in bagged composts has caused the destruction or degradation of over 90% of the UK's peatlands. With so few peat bogs left, the industry now has to import up to 68% of peat from elsewhere.

Why should we ban peat from horticulture?

Extracting peat, and destroying peatlands, has a disastrous effect on the environment. Wildlife is destroyed. Carbon is released, which hastens the climate change. And, because peat bogs take over a 1000 years to renew themselves, destroying them simply isn't sustainable.

It also isn't necessary. Bagged composts and growing media can be made from more sustainable materials, which can act just as well as peat based composts.



This is how a moorland looks after extraction of peat on an industrial scale.

Growing without peat

Growing without peat is easier than you might think. There is excellent peat-free bagged compost now available. And making your own peat-free potting mixes couldn't be simpler.

A word about bagged composts

Many of the major suppliers will offer peat-free compost. These are alongside the bulk of their potting mixes which are still heavily dependent on peat. You can choose to buy their peat-free range, or buy from producers who only create peat-free mediums, such as Melcourt (SylvaGrow range), Dalefoot (who use bracken and sheeps' wool) and Fertile Fibre. See p. 14 on how to choose a peat-free bagged compost.

How to make your own potting compost

Making your own potting compost is not difficult, and means you create just the right mix for your pots and plants. No more heaving of heavy plastic bags from the garden centre. Not only are you saving money, but also the planet.

You will need some homemade compost, leafmould (see p. 11) and garden soil (loam). If your soil is very heavy, you might need to add some horticultural grit or sand to help drainage. A garden sieve will also help.



There are three main types of mix: for seed sowing, potting on, and large containers. Here are the recipes for each.

Sowing seeds

- 1 part loam (garden soil)
- 1 part leafmould
- 1 part horticultural sand.

Seeds contain their own nutrients so they will germinate successfully in a low nutrient potting mix. But it must have good drainage. To clean your loam of weed seeds, bake it in the oven for 30 minutes at 80°C to sterilise it.



Potting on

- 1 part loam (garden soil)
- 1 part leafmould
- 1 part sieved homemade garden compost.

Seedlings and young plants still need excellent drainage, but a little more nutrient (not too much, or they become leggy without finding their own strength).



Large containers

- 1 part loam (garden soil)
- 1 part compost.

Plants growing for a long time in pots need a good source of slow-release nutrients. They will get this with a rich mix of soil and homemade compost. We recommend re-potting every few years, and adding a top dressing of compost annually.

It is good to feed at certain times, such as blooming and fruiting. For this, you can use a foliar or liquid fertiliser, like homemade comfrey or nettle feed. See p. 12 on how to make comfrey feed.





Here are some recipes for other types of container growing:

Cuttings

- 1 part horticultural sand
- 1 part homemade compost, sieved.

These need excellent drainage so their ends don't rot, and a fine textured medium to help the roots establish.

Planting herbs

- 1 part loam (garden soil)
- 1 part homemade compost
- 1 part horticultural sand or grit.

Mediterranean herbs such as sage, thyme, lavender and marjoram all need a well-drained soil. It is the wet, not the cold, that will kill their roots.



Hanging baskets and tomatoes

- 3 parts loam
- 1 part manure (or homemade compost if you can't find manure)
- 1 part leafmould.

Plants that flower continuously, and hungry vegetables such as tomatoes, aubergines and peppers, are fast growing and greedy. They need a rich mix which is full of nutrients. Grown in containers, they should also be fed with a liquid feed such as comfrey feed (see p. 12).



The ideal mix in all cases should

- Provide the correct nutrients for the plant.
- Retain moisture, but drain well.
- Retain air, yet hold plant roots firmly.

It should not

- Break down, leaving pots, trays and containers half empty.
- Slump, so that the soil becomes compact and airless



Tips for success

- Make different mixes for different purposes ie seed sowing, potting on etc.
- Mix ingredients thoroughly.
- Sieve homemade compost and loam for seed sowing.
- Don't sow seeds or transplant seedlings straight into homemade garden compost. It will be too rich.
- Add horticultural grit or sand to ensure good drainage if your soil is heavy.
- Try out small quantities at first to see how your plants/seeds fare.
- Feel free to experiment and alter the mixtures to find the best combination for your plants.



How to make compost, leafmould and liquid plant feeds

Homemade compost and leafmould are a vital part of potting mixes. The compost slowly releases nutrients, and the leafmould lightens the structure of the mix – making it easy for roots and moisture to penetrate.

Here's how to make them both.

Homemade compost

Recycling your garden and kitchen green waste into compost is easy and satisfying. Compost feeds both the soil and your plants.

Put all waste foliage (including cuttings, lawn mowings, weed foliage etc) into the heap. Mix these 'greens' with brown material, such as cardboard, scrunpled up paper and straw, and you get a healthy mix to rot down. You can also add any kitchen vegetable scraps (potato peelings, salad and veg leaves, coffee grounds, fruit peel – but NOT meats, cheeses or cooked food).

You can use a compost bin, or simply create a heap.

Turning your compost will help speed up the rotting process.

After 6 months or so, the mix will be ready – dark brown and crumbly.

For full information on home compost making, including Dos and Don'ts, go to gardenorganic.org.uk/compost.



Making leafmould

It is easy to make leafmould. All you need is piles or bags of autumn leaves, stored with a bit of moisture, for a couple of years. The result is a dark crumbly mixture that doesn't hold a lot of nutrients, but it is perfect to give soil and potting mixtures the right structure – not too dense, and not too light. Worms and other soil life love it too.

To make leafmould, simply

1. Collect leaves from your garden, roads and parks (but not natural woodlands)
2. Put them in plastic sacks or pile them into an open container, made with posts and chicken wire
3. Keep them well-watered
4. After a couple of years the leafmould will be dark, dry and crumbly. It's perfect for potting mixes and adding to your beds.



Compost heaps needn't be large. This one is ideally placed near a waterbutt.



Liquid feeds

To help fertilise your growing mix, especially for hungry plants such as tomatoes, you can add a homemade liquid feed. This is made by immersing particular plants in water – such as comfrey and nettles. As their leaves and stems rot, they release minerals like nitrogen, phosphate and potassium, which make a powerful fertiliser solution. This can be either added to the potting mix or sprayed onto the plant's leaves – as and when needed throughout the flowering and fruiting season.

Comfrey tea

Cut a large amount of comfrey leaves, and squash them down to fill a whole bucket or other suitable container. Fill the bucket with water, pushing down the leaves as you go. Cover and leave for up to 6 weeks.

The dark (very smelly!) liquid can be strained off and used straight away, or bottled for use throughout the year.

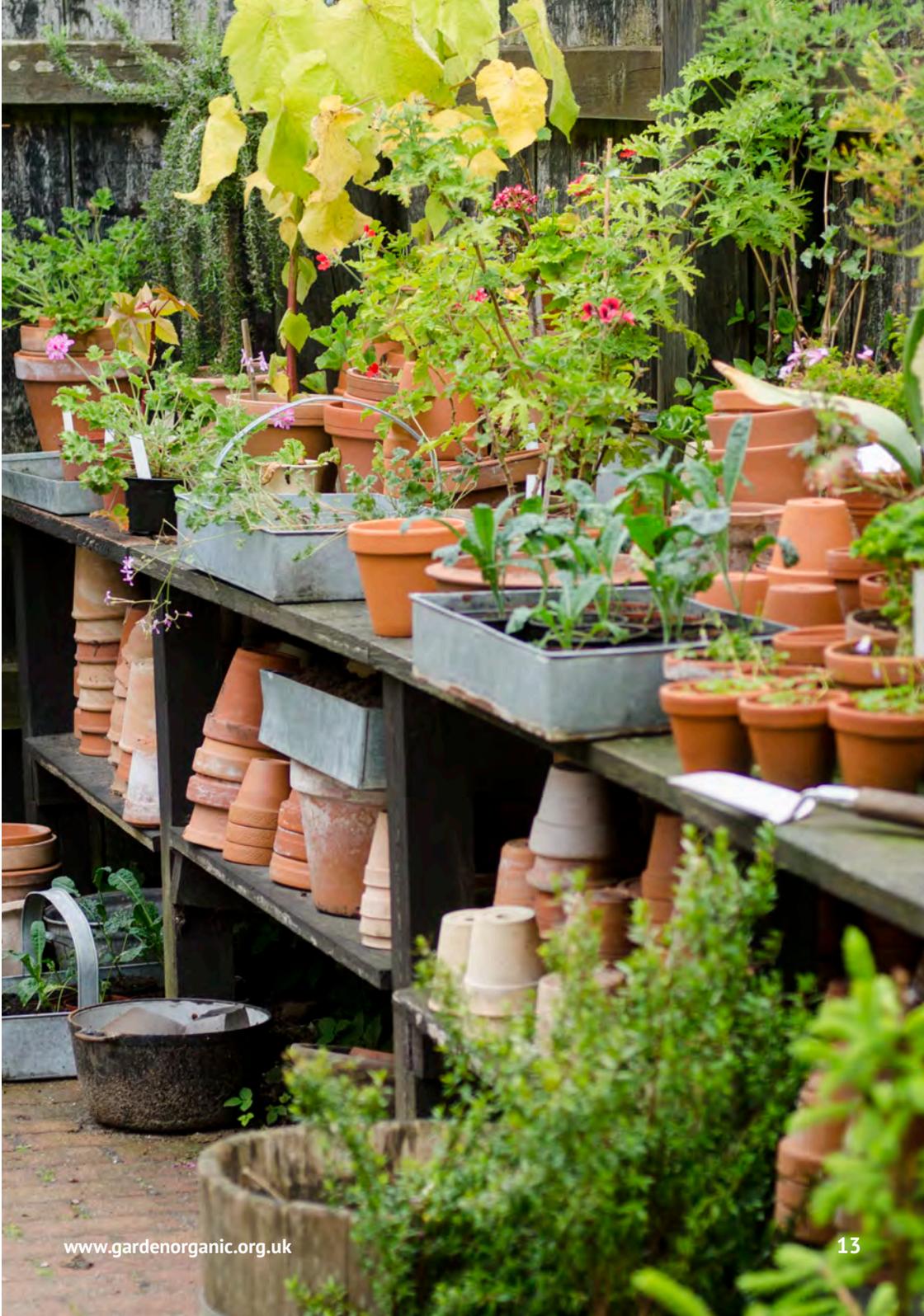
Comfrey contains the ideal mix of all the important minerals for a healthy plant. If the smell is too much for you, visit gardenorganic.org.uk/comfrey for instructions on making comfrey concentrate.

Nettle tea

Use the same process as for comfrey tea.

Nettle feed is particularly high in nitrogen – which acts as a tonic to encourage green growth. It doesn't have the same ideal balance of minerals as comfrey, and therefore not quite so effective for flowering and fruiting.







Choosing a peat-free bagged compost

Sometimes it's not possible to access soil or homemade compost. If you have a small growing area, a balcony, or can only grow indoors, then you will need to buy your growing mix. But you can still go peat-free.

Until recently, peat-free mixes were not entirely successful but recent research has revolutionised them. They now perform as well, if not better, than those with peat. Reputable growers such as the Heritage Seed Library at Garden Organic always use peat-free; others such as the RHS and the National Trust have now gone peat-free.

However, they are still not as widely available as peat-based composts. If your local retailer doesn't stock peat-free, ask them why not.

Tips for success:

- Be sure to get the right mix for the right stage in your plant's life. Seed sowing, potting on, cuttings etc. There are also mixes for ericaceous and other acid loving plants.
- Peat-free compost can be a little more expensive. It's worth it. And it's worth spending more within the peat-free range itself. Cheap peat-free will almost certainly disappoint.
- Garden Organic recommends producers which only make peat-free mixes, such as Melcourt (Sylvagrow range), Dalefoot and Fertile Fibre.
- Read the label carefully. Beware those which say 'Reduced peat' – these can still hold up to 80% peat in the mix. Ignore claims of 'not from an environmentally sensitive site' – all peat bogs are sensitive habitats. And 'organic' doesn't necessarily mean peat-free.







How to use a peat-free compost

You may have to get used to a peat-free mix. Although they are very similar to other composts, some require a slight change in watering habits and others may need extra feed. Don't be afraid to experiment with different mixes to find what suits you and your plants best.

Watering

Because of their high coir and woodchip content, peat-free mixes have a tendency to dry out more easily. They also have a coarse texture, which can appear dry on the surface but still damp further down. Check by putting your finger in the soil to see if it's dry all the way through. Watering little and often is best.

Don't let pots dry out otherwise they can be difficult to water again, as the water runs off the top. If this does happen, soak the whole pot in a bucket of water to let it draw up the moisture.

Feeding

All bagged composts have CRFs (controlled release fertilisers) included which will feed the plant over a period of just a few weeks. Peat-based composts claim to feed for up to 6 weeks, while most peat-free composts provide fertiliser up to 4 weeks.

If you observe your plants on a regular basis you will know if they need extra feeding. Use liquid feeds, such as homemade comfrey tea (see p. 12). With more mature plants which are potted up, we recommend adding in some homemade compost into the mix. It helps with structure, and provides slow release nutrients over a period of months.



So what's in the bag?

All peat-free growing composts are made out of a mixture of substances. This means they may behave differently to peat-based bags.

- Composted wood products such as bark, sawdust or paper mill waste make up the bulk of many peat-free potting composts. These have good water-holding properties but the consistency and composition can be variable depending on where it is sourced from.
- Green waste compost collected from local councils can make up to one third of the mix. PAS100 certification aims to ensure that it is a consistent standard. Green waste compost is also commonly sold on its own as 'soil improver'. But, like homemade compost, it is too rich to be used on its own as a potting mix or to fill raised beds.
- Coir is also commonly found in peat-free composts, and provides a good mix of water holding and aeration. Its texture is good for seed sowing, but on its own it contains virtually no nutrients, and doesn't hold onto added nutrients – unlike peat. Coir is the waste of a coconut husk; horticultural coir uses the secondary waste from coir which has been used to make ropes and matting. Although it puts to good use a waste product, the shipping distance is a cause for concern.
- Wool is used in some composts as it has good aeration and acts as a slow release nitrogen fertiliser.
- Composted bracken has good water-holding properties and is slightly acidic, so is ideal for ericaceous plants.

Green waste compost can be delivered from your local council. If you grow on an allotment, you could arrange to share a job lot with fellow allotment holders.

Notes

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Dedicated to promoting organic gardening in homes, communities and schools, we encourage people to grow in the most sustainable way, and demonstrate 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.

Join Us

By becoming a Garden Organic member you can join the thousands of people in the UK and overseas who are already leading the movement for an organic and sustainable future for us all.

Your support will help in many ways, including:

- enabling us to fight on a national and international scale about environmental matters important to you
- allowing us to showcase organic growing techniques and best practice, to educate and inspire gardeners and growers
- protecting our plant heritage with our world-renowned Heritage Seed Library

Your membership includes:

- a copy of *The Organic Way* members' magazine sent three times a year
- access to an online members-only area of our website with organic growing factsheets, plus a gardening enquiry line for personalised advice
- 10% off all orders with the Organic Gardening Catalogue (organiccatalogue.com)
- free or discounted entry to a range of partner gardens around the UK including our base, Ryton Organic Gardens in Warwickshire
- our monthly email newsletter with growing advice and updates from the Charity
- the opportunity to join the Heritage Seed Library, to receive your choice of 6 free packs of rare heritage and heirloom seeds

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Peat is the horticultural world's dirty secret.

Huge amounts are sold in bagged compost. And yet we know that peat bogs are rapidly disappearing. This means the loss of a rare and special habitat, but also the destruction of one of the earth's greatest carbon stores.

This short guide will help you to grow and garden successfully without peat. It includes recipes to make your own potting mixes, plus tips on which peat-free compost to buy, and how to get the best results – the organic way.



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