



# What future for peat?

Gardeners have been using peat-based composts since the 1970s, but environmental concerns makes future use uncertain. **Susie Holmes** provides an update on the issue. Photography by Tim Sandall

## ARGUMENTS FOR GOING PEAT-FREE

- Many peat-free or peat-reduced growing media prove suitable for a range of purposes, such as rooting cuttings (top) or potting-on.
- Reducing the amount of peat gardeners consume will help ensure the protection of lowland raised peat bogs (above), which are rare habitats in the UK, home to plants such as sundews and many mosses and sedges.
- As a result, peat bogs can continue to act as valuable carbon sinks, storing carbon in a form that does not negatively contribute to climate change.
- Peatlands also play a role in the global water cycle – their destruction may lead to increased risk of flooding.

**TIME FOR AN ALTERNATIVE**  
When choosing multipurpose compost (left) it is possible to find peat-free formulas, such as those based on coir, or peat-reduced mixes

**PEAT-BASED COMPOSTS** are, for a generation of gardeners, synonymous with gardening. Almost all the plants we buy are grown in them and they constitute the vast majority of composts sold – in fact home gardeners account for about 70 percent of all UK peat use.

Our love affair with peat-based compost began in the 1970s when peat took over from loam-based John Innes mixes, transforming the horticultural industry in the process. Until recently most ‘multipurpose compost’ and growing bags were 100 percent peat, with lime and fertiliser added, although many products now contain at least 10–20 percent other materials as manufacturers (encouraged by the UK Government) try to reduce peat use.

**Peat and the environment**  
So why can we not carry on using peat to grow plants? There are two major concerns over peat extraction.

The loss of biodiversity from rare lowland peat habitats has historically been the main problem, and Government targets for peat extraction are part of the UK Biodiversity Action Plan,

developed as a response to the 1992 Convention on Biological Diversity, encouraging sustainable development.

The second and more recent concern is the loss of peat as an important store of carbon, once bogs are drained and peat extracted. This peat, over time, gradually breaks down, giving off CO<sub>2</sub>, a greenhouse gas. As a result, new Government targets for peat replacement will be linked to the ‘Act on CO<sub>2</sub>’ campaign (see News, p147). As such a large proportion of horticultural peat is used by home gardeners, there is pressure on the gardening public to do their bit, in addition to efforts by the professional sector.

Although a UK Government target set some years ago to make 90 percent of composts peat-free by 2010 will not be met, limited progress has been made – a reduction of around 25 percent has so far been achieved.

Arguments that far more peat is burned in power stations globally than used in horticulture are unlikely to make any difference, either – in the battle to reduce greenhouse gas emissions, every bit saved helps. ▶



**Growing media options**

British gardeners often use the word 'compost' when they actually mean 'growing medium'; technically 'compost' is the product of a composting process, which in most cases growing media are not, so this often causes confusion.

We should not assume replacing all or some peat in a mix is bad. Blending in materials such as bark and wood fibre can improve drainage, while green compost or loam improves water and nutrient holding, creating mixes which are actually better for growing in than pure peat. However, there is no mix ideal for every situation, and gardeners will find some blends are better for certain uses; a coir-based mix is good for seed sowing and propagation, for example, but a blend with bark or wood fibre will probably suit outdoor planters.

There is nothing new about this, in essence – gardeners have long blended their own media for specific uses, but the materials manufacturers are adding to shop-bought media may be in some cases unfamiliar. Moreover, it is not always easy to ascertain the precise ingredients in a bag of 'compost'.

Manufacturers, however, are now improving labelling so it should soon be easier to see what the peat content is

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– and which other materials are used in the mix. Some are even adopting a bar-chart system, in much the same way packaging of certain foods shows the fat and salt content. The Government is also encouraging more in-store information to make it easier for gardeners to make 'greener' growing media choices.

The main source of independent information on different brands of growing media is the annual *Gardening Which?* test report but, as with any peat-based mix, different blends suit different people, depending on the types of plants you grow and how you water and feed them – do not be put off if the first alternative mix you try does not suit you.

**Adapting to new media**

Often, the biggest problem gardeners have when changing to a new growing medium is with watering. Some reduced-peat or peat-free media dry quickly on the surface yet are still moist below, making it all too easy to overwater plants.

However, an advantage of this drier surface is reduced moss and liverwort growth compared to peat mixes. It may also be necessary to feed plants differently in reduced-peat or peat-free media. Coir-based mixes may need feeding earlier and mixes containing green compost may last longer without feeding because of the slow-release nutrients that the compost supplies.

The materials outlined opposite (p181) are alternatives used by manufacturers in peat-reduced, and even peat-free, growing media likely to be found at garden centres. These four alternatives

are considered to have a significantly reduced impact on the earth's climate system in comparison with peat.

**Other materials**

Mineral-derived materials such as perlite and rockwool can be used in growing media, but either need to be added at a low percentage (because of their low water-holding capacity) or used in hydroponic systems. High energy is needed for their manufacture; they do not degrade after use.

Loam is used at a low percentage in some mixes to improve water and nutrient retention, for example in John Innes products. However, good quality loam is scarce and not renewable.

No one material can replace peat, but the quality of alternatives has improved hugely and as a result the RHS is committed to helping gardeners reduce peat use. If you are not confident, try a reduced-peat mix first, especially for specialist plants. For tubs of shrubs or summer bedding, quality peat-free media should perform well.

The key to success with new growing media is managing watering and nutrition, and not expecting them to behave like peat. The Government will continue to encourage gardeners to use less peat, which should mean a wider choice of reduced-peat and peat-free products, with better information on packs and in store. Our reliance on peat is fairly recent – gardeners have adapted to changes before, and so can again. ■

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@ For more information, visit:  
[www.rhs.org.uk/peat](http://www.rhs.org.uk/peat)

i This year, a project at RHS Garden Wisley will review how to water, and manage nutrients in, peat-free products.  
• **Further reading** The March issue of *The Plantsman*, quarterly sister publication to *The Garden*, includes a more detailed review of peat alternatives. For subscription details, tel: 0845 062 1111 or visit: [www.rhs.org.uk/plantsman](http://www.rhs.org.uk/plantsman)

**GROWING MEDIA  
COMPONENTS**

● **Bark**

A by-product of the timber industry, bark can be considered a sustainable resource because forestry plantations are replaced in a cycle of harvesting and replanting. Pine or spruce barks generally are the main types used; bark of deciduous trees is often toxic to plants. Bark is useful in mixes for plants that are outdoors over winter and for species that need good drainage, but usually must be blended with more water-retentive materials.

● **Wood fibre**

Manufactured wood fibre is a recent addition to the peat-alternatives range in the UK. It is produced by subjecting wood chips to pressure, which expands them to a fluffy fibre. Wood fibre has the advantage of being a consistent material from a renewable resource and various products now contain it.

● **Coir**

Coir pith dust is a by-product of coir-fibre production in countries such as India and Sri Lanka. Fibre from coconut husks is used in ropes, mattresses and matting, but the dust is a waste product that was once burned or accumulated in heaps. Coir has been used in growing media since Victorian times and is closer to peat in terms of its air-to-water-capacity ratio than other alternatives. Coir is imported in a compressed state and reconstituted in the UK, making transportation cheaper: coir's 'carbon footprint' is not too bad as it is transported mostly by ship.

Coir can be used in reduced-peat blends and even undiluted: it has good air capacity as it holds air within the 'honeycomb' structure of its particles. Its texture promotes root growth so is suitable for seed mixes and cuttings, and for potting indoor plants.

● **'Green compost'**

This is the term for compost from green waste materials, such as brushwood, grass clippings and tree prunings, made at large composting facilities. Green compost is already used at a low percentage (typically 10–20 percent) in many multipurpose products and growing bags. It behaves like loam, holding nutrients and water well, making it useful for summer planters and hanging baskets.



**DOES WHAT IT SAYS?** The labelling on growing-media bags is beginning to improve. Some products found in garden centres and nurseries clearly state if a product is peat-free (above); other reduced-peat mixes may need closer examination (below right and bottom). Peat-substitute materials include bark (above right), which is usually added to peat mixes and broken up into small particles before use. Wood fibre (right) is a relatively recent material, added to compost mixes by some manufacturers. Coir (below) and composted green waste (bottom right) are better known, and have been used in home-made mixes



Bark



Wood fibre

PAUL ALEXANDER / RHS



Coir

SUSIE HOLMES



Green compost

Peat-free media can be used for many purposes, including topdressing for plants in containers