

Gardening Without Peat

As our climate changes, gardens are becoming even more vital to wildlife and people. They can provide shade, absorb carbon, soak up flood water and help to cool buildings. A well managed network of gardens stretching across the Sussex would also help wildlife to move more freely and adapt to climate change enabling us to create a living landscape.

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Most people know that tropical rain forests are home to many plants and animals that can't survive elsewhere and that destroying them is bad for wildlife and the planet.

Not as many people know that lowland raised bogs are also home to rare and precious wildlife. Just like rain forests the peat in these bogs and the plant life it supports locks up carbon dioxide helping to slow climate change. There was once nearly 95,000 hectares of lowland raised bogs in the UK. Now 94% has been damaged or destroyed and only some 6,000 hectares remain. Because most of the lowland raised bog in the UK is now protected we are now importing roughly 65% of what we use. Much of the import comes from Northern Ireland.

What makes bogs so special?

Sphagnum moss is the building block of peat. When the moss dies it can't decompose properly as the ground is very waterlogged. New moss grows on top of the dead moss compressing it into peat. The process sees the peat grow by around 1mm each year. Some raised bogs are over 7 meters in depth making them at least 7,000 years old. Without bog habitats we could lose a wide range of species such as the great sundew and many dragonflies that thrive in this habitat



Sphagnum moss /
Victoria Hume

What impact has gardening had on peat bogs?

Despite the fact that gardeners only started to use peat widely about 60 years ago, they now buy more peat than any other group, including professional horticulturists and local authorities. The convenience and low prices of peat have made it a hard habit to kick. Despite many gardeners trying out peat substitutes when they were first on the market many have complained that they are too difficult to use. This lack of enthusiasm for peat substitutes has resulted in the continued use of over two million cubic meters of peat being used every year- 66% of what is extracted. That's the equivalent of 24,000 double-decker buses full of peat. As a result of this huge appetite we are continuing to destroy priceless lowland bog habitat and all the wildlife associated with it.

Why should we not use Peat in the garden?

Peat is a very versatile growing medium for container-grown plants, due to its capacity to hold good amounts of both air and water. It's naturally low pH and low nutrients suit a wide range of plant species. However there are very good reasons not to use peat in the garden, the main one being preventing further destruction of one of our most precious natural habitats.



Sphagnum magellenicum . Graeme Lyons

Lowland Bogs are very fragile habitat; harvesting peat from one part of a bog can cause water to drain away from the surface elsewhere, drying out the sphagnum so the moss dies, and letting scrub species invade. Demand for peat has resulted in the destruction, degradation and fragmentation of lowlands peat bogs and their wildlife.



Golden ringed dragonfly / Alan Price, Gatehouse

We can help by not using peat in our gardens. We can also put pressure on nurseries and garden centres not to use peat in the growing medium of the plants we buy. Some organisations, such as the National Trust, have made a commitment to phase out the use of peat entirely. They are showing it is possible to grow a wide variety of plants without the use of peat.

A number of garden suppliers now market peat which is not harvested from SSSI's. This is a step forward, but does not solve the problem. Some peat comes from non-listed sites, which are still of wildlife and conservation interests, or degraded sites which could be restored with sympathetic management.

Other peat is imported, much of it from Ireland, whose bogs are just as fragile and beautiful as ours in the UK, but further from the public gaze.

What are the Alternatives ?

There are now a number of good quality commercially-available composts which do not contain peat. The alternatives are usually based on timber products, coir, or composted materials. Remember, if it doesn't say "Peat Free" on the bag, it almost certainly contains peat!

◆ Wood and timber industry residues

They are low in pH and in nutrients. They have to be "stabilised" by composting or maturing before use. Wood products are usually blended with other materials to improve their low water-holding capacity

◆ Coconut fibre dust (coir)

A waste product from the coconut processing industry, buying coir will help the economies of many developing countries (although there are environmental costs to the long distances it has to be transported). Coir has excellent air-holding capacity, but requires more fertilizer and needs more frequent watering as it does not retain water and nutrients well.

◆ Green compost

Produced from garden and landscape waste from civic amenity sites. Microorganisms break down organic material into "humus", to be used as a soil improver or mixed with wood residues or coir. Green composts should be diluted with low-nutrient material. There are also several alternatives we can produce in our own gardens.

◆ Leaf mould

An invaluable ingredient in home-made mixtures, mature – two years old – leaf mould can be used neat for seed sowing, or incorporated into mixes to improve structure. It is rich in microorganisms helpful in suppressing diseases, and low in nutrients. It can contain weeds seeds.



Leaves / Victoria Hume



Compost bin /
Elli Saunders

◆ Garden compost

Home-made garden compost is nutrient rich. It is useful for potting on composts and long-term growing in containers. Timing of nutrient release can be very variable. It can contain weeds seeds.

◆ Worm compost

Worm compost is ideal in mixes needing plenty of nutrients. It also has good water holding capacity, useful in hanging baskets. It can be spread on top of containers and watered in where additional feed is needed.

◆ Manures

Well-rotted straw farmyard manure provides bulk and nutrients. It is best used in rich mixes for long term use – such as tomatoes or peppers growing in pots.

◆ Organic fertilisers

Bone meal, hoof and horn, seaweed meal and other organic fertilisers can be added to a mix to provide necessary plant nutrients. These are slow release materials so large amounts are not needed.

Advice when using peat free alternatives

Often only “general purpose” peat-free composts are easily available. These are very useful, but it is easy to make your own mixes for particular purposes. This can also save you money, as mixes for most purposes can be made from your own garden compost and leaf mould.

◆ Growing Seeds / Seed Sowing

Seed compost should be free draining and low in nutrients. Try using pure coir, mature leaf mould, or a mixture of leaf mould and loam.

◆ Potting on and growing cuttings

Use 100% coir to establish cuttings and pricked out seedlings. Feed the plants more frequently than with peat mixes. To boost nutrient and moisture retention add a little sterilised soil, leaf mould or green compost. To improve drainage add some grit or sharp sand.

◆ Containers and hanging baskets

Peat free products may need more frequent watering and feeding than peat. To make your own mixture, blend 50% coir with 50% home compost or leaf mould. Adding some bark-based compost will improve drainage. Add water-holding beads or gels to hanging baskets, which can dry out quickly. For large plants growing long term in tubs and containers, use two parts loam to one part leaf mould. Adding manure gives a much richer mix for greedy fast growing plants.



- ◆ **Grow bags**

Make your own mix by blending 30-40% garden compost or leaf mould into a bag of coir or bark/wood based proprietary product. Peat-free grow-bags are also sometimes available.

- ◆ **Soil Improvers**

Soil improvers add organic materials to the soil, helping to boost soil biodiversity, add nutrients and improve moisture retention. Although frequently used as a soil conditioner peat is almost completely useless for this as it contains few nutrients. Composted organic products are much better. They last longer and have more nutrients. Use wood wastes, spent mushroom compost, composted farmyard manure or garden compost.

- ◆ **Mulches**

When used mulch peat can quickly dry out, disintegrate and blow away. There are many better options. Commercial products based on composted or chipped bark, wood waste or cocoa shell will retain moisture and suppress weeds as well as looking attractive. A mulch of garden compost has the advantage of adding nutrients to the soil as it is incorporated into the soil. Leaf mould can also be used, but if in short supply is better used in compost mixes.

Peat facts:

- ◆ The Government target aims to make 90% of the soil improver and growing media market peat-free by 2010, as set out in its Habitat Action Plan for Lowland Raised Bog.
- ◆ In 2005, the total volume of growing products used in the UK was 6.46 million m³. 53% of this was peat.
- ◆ Only about 15mm of peat is harvested at a time. Depending on the condition of the bog, there may be up to 12 harvests a year, equivalent to 200mm of peat. However, it takes 12 months for just 1mm of peat to form – so the milling process destroys 200 years worth of peat every year.

For further information download the Royal Societies of Wildlife Trust leaflet on peat free products (www.wildlifetrusts.org)