

Summary of the TAGS talk 'Peat Free Gardening' by Sally Morgan

What is peat

Peat is plant material that has partially decomposed in waterlogged conditions. The vegetation is quite specific to these bogs including mosses and the accumulation of the peat is very slow, around 1mm per year. Hence the peat bogs which are the source of garden peat are very old and the extraction far outstrips new peat formation. In common with other plant assemblages, peat bogs extract carbon dioxide from the atmosphere and store it. They also slow the runoff from hillsides, thereby reducing flood risk.

Why peat?

Peat became widely used as a potting medium when gardening centres became popular in the 1970s, replacing the loam-based composts. It has several features that made it very attractive as an alternative:

1. Low nutrient status with good water holding properties.
2. Light, airy with high porosity.
3. Clean with no weeds or pathogens.
4. Structurally constant so maintaining aeration and drainage.
5. Can be dug out and bagged ready for sale and so cheap.

Alternatives

The recent concern about climate change has induced a re-think about the use of peat in horticulture and alternatives are appearing in the market. These are composed of different base materials and so the gardener needs get used to how they perform.

1. Coir: this is the husk from coconuts, compressed and transported in bulk mainly from India and Sri Lanka. It has a mix of coarse and fine fibres and has good microbial resistance. It holds water well and is airy, but is poor in nutrients.
2. Composted bark: wood waste of various sorts: stripped bark, wood fibre, saw dust, Good drainage with low pH.
3. Green waste compost: this is waste vegetable materials that have composted en masse at high temperatures, high in nutrient and with a higher pH. Variable in quality so look for compost with a regulation label of PAS100. Best used as a soil improver rather than a potting compost.
4. Wool: a waste product from upland farms. High in nutrients and with good water retention, takes time to break down and so acts as a slow release.
5. Bracken: harvested as an invasive weed, has good nutrient content.
6. Woodchip: trials have been done on allowing large quantities of woodchip to compost for 1 to 2 years and then mixed with lime (pH adjustment) and vermiculite (for drainage) to produce a peat free growing medium. Ref: www.agricology.co.uk

All the above are mixed with grit, sand, rock wool, and perlite to give a mix of coarse and fine grains to produce a balanced compost which contains air and water.

When buying an alternative to peat, check the label. If it doesn't say peat free, then it probably contains peat! And take note of the type of compost: seed, potting on, containers.

Main players:

Sylvagrow: wood fibre/bark

Dalefoot: wool, bracken, comfrey

Carbon Gold: coir, biochar

Fertile Fibre: coir

New Horizon and Miracle Grow: green waste

Working with peat free

Two aspects need to be considered:

Watering: peat free based on coir and woodchip can dry out more quickly with a surface crust, but be moist underneath so check with a finger or water meter. Water will run off the top so soak from underneath to draw up water.

Feeding: most peat free will have some nutrients that will last about a month to six weeks, but be aware that those products that are organic are limited by what additives they can use.

Make your own compost

Seed: this is a bit problematic because of the risk of pathogens and weed seeds which would be a serious threat to germinating seeds, so a commercial product labelled as a seed compost is the best bet.

Potting on: leaf mould is a very useful component of compost and can be made by collecting and storing fallen leaves. They can be packed into black polythene bags after being moistened and left for 1-2 years, but a more efficient method is to construct an open wire frame of about 1cubic metre and pile in the leaves. Water well and keep adding the leaves and within a year, coarse sieving should yield a quantity of useable leaf mould. The process is enhanced if the leaves are collected by a rotary mower.

Homemade compost: composition:

- 1 part leaf mould –low in nutrients, bulky and adds drainage and aeration.
- 1 part sieved garden compost for nutrients and bulk.
- 1 part clean loam as a source of sand and clay and gives structure and some nutrients. This can be sourced from molehills.
- Sand, perlite, etc. depending on use.

Cuttings: drainage is important in propagating cuttings, particularly for soft stems: Composition:

- 1 part sharp sand.
- 1 part sieved homemade compost.

Containers: plants need a medium that retains moisture, but drains well. Aeration is important so there should be no shrinking or slumping in the pot and ideally should be free of weeds. This may be difficult if the garden compost has not reached high temperatures (c.60oC) to kill off the weed seeds. Slow release nutrients will also be required. Composition:

- 1 part loam.
- 1 part homemade compost.
- Handful of biochar.

Biochar is essentially charcoal made by heating wood at high temperatures in the absence of oxygen. This preserves the microscopic structure of the wood, forming a honeycomb like network of tubes that traps water and air and acts as a site for beneficial microorganisms for the benefit of the plant.

Ericaceous plants: non peat alternatives need to be adjusted to ensure a lower pH value. This can be achieved by using composted conifer leaves (pine needles) and bark with bracken. Composition:

- 3parts compost.
- 1 part acidic sand or perlite.
- Avoid using tap water.
- Making garden compost

Garden compost is made from the green waste materials of the garden and allotment – grass clippings, annual weeds and kitchen vegetable waste. These have a high nitrogen content and should make up between 25 and 50% of the heap. The rest is composed of brown material which has a high carbon content. This mixture, along with moisture, induces rapid micro-organism activity which

raises the temperature of the heap to maintain the activity and over a period of between 6 months and 2 years, a dark brown crumbly material with an earthy smell should be produced.

Points to note:

- Ideally the compost should be in a bin, either constructed or commercial and of a minimum volume of a cubic metre.
- Green contents: grass clippings, soft leafy plants, fruit and vegetables, uncooked kitchen waste. Rotting is enhanced if the larger material is cut into lengths of around 10 cm (4")
- Brown materials: prunings and hedge trimmings (ideally shredded), woodchip, dead leaves, shredded paper and cardboard, straw.
- A surfeit of grass clippings can produce a slimy smelly mess and so should be mixed with shredded paper.
- The heap should be moist but not wet. Cover the heap to keep out the rain. With a constructed bin, the cover could be a piece of solid cavity wall insulation which will allow the heap to get hot in the early stages which will kill off weed seeds and produce a sterile compost.
- The heap should be turned, ideally monthly to allow aeration for the composting process to continue. This is hard work and demands space to reconstitute the heap. An alternative is to aerate the top layer with a fork before adding any new material.
- The final product should be moist, brown and crumbly and relatively odourless. If it is to be sieved, used a coarse sieve with a 2cm mesh.