



Department
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Food & Rural Affairs

Growing Media Materials Guide

A GUIDE FOR RETAIL STAFF ON THE MAIN
ALTERNATIVES TO PEAT IN GROWING MEDIA

Introduction

When approached by shoppers, you may be asked varied questions relating to the growing media they wish to purchase. Shoppers may want reassurance that a peat-free product has been produced with care to high standards, or to know more about what is involved in replacing peat with different ingredients. This guide aims to give you some basic information on the main ingredients that are used instead of, or alongside peat in growing media in the UK.

Growing media manufacturers have invested, and continue to invest millions of pounds in researching and developing the best possible products for use in growing media. This research involves not only developing and testing the materials themselves, but also involves understanding how the different ingredients affect plant growth when used together. Using different combinations of different ingredients in a bag makes the science of ensuring good gardening results very complex.



Whilst this guide won't turn you into a soil scientist, it will give you some of the knowledge to talk to customers about what's in their growing media. You will also be able to reassure them of the care and attention that manufacturers are putting into their products.

Wood fibres



The term 'wood fibre' is often used to describe a peat alternative in growing media, but it can be produced in several different ways. Wood chips can be 'hammered' in special machines to loosen the wood fibres (hammer milled woodchip). Wood chips can also be treated with steam to loosen the fibres (steam expanded wood chip). Other types of wood fibre exist, and each has a specific role in a growing media. For instance, hammer milled woodchip fibres can be used to improve drainage in growing media. Steam expanded wood chip is very fibrous, and the fibres can be mixed with coir to produce very good peat free mixes.

Where wood fibres are used in growing media, extra nitrogen-based fertiliser can be needed to avoid nitrogen immobilisation. Nitrogen immobilisation can occur where a growing media includes materials with a high carbon-to-nitrogen ratio such as wood fibres. The inclusion of such materials can stimulate microbes in a soil to take up nitrogen. This can mean there is less nitrogen available for the plants, leading to nitrogen deficiency and less healthy plants unless fertilisers are used.



Coir

Coir is the separated pith from the outer husk of the coconut. Coconut husks are shredded to recover fibre for use in rope and mat making. The remaining pith is then washed and sundried before being compressed into blocks. These blocks are then reconstituted before use in growing media. The degree of suitability of coir in growing media depends on the thoroughness of the washing which removes much of the soluble 'salts' in the coir. This is essential, and coir suppliers run rigorous checks against quality standards to grade the coir for use in growing media. The main sources of horticulture grade coir are currently South East India and Sri Lanka.



Barks

The barks used in growing media are usually matured pine bark or composted spruce, larch, or hemlock, stripped into shredded barks. Not all tree barks are chemically suitable for use in growing media. Obtaining enough of these specific barks from the UK is a challenge; much of the high quality pine bark that was used was imported from southern Europe. Importing barks from southern Europe is challenging and involves making sure that the materials meet the plant health and phytosanitary requirements of the Forestry Commission. These requirements ensure that the bark is processed in such a way that pests such as the pine nematode and spruce larch beetle aren't introduced into the UK.



Green compost (also known as composted green waste)

Green compost is made by composting green and garden waste. In order for the material to be useful in growing media the material needs to be free of contaminants that householders sometimes mix with their garden waste. Growing media manufacturers require green compost to be at or ideally better than a national standard (PAS100) in order to use it in growing media. Because of its physical, biological and chemical properties such as its high nutrient density, green compost can only be used for a small proportion of the content of a typical bag of growing media. However the material can be used in much greater quantities in soil improvers.

Anaerobic digestate fibres

Anaerobic digestate fibres are a by-product of the processing of specific types of farm waste from different crops – it's what's physically left of waste from things like rye and maize stalks and leaves once it has been processed. Increasingly our electricity is being generated by processing waste such as this in anaerobic digestion (AD) plants. An AD plant works in principle like a large stomach; it breaks down the waste put into it using microbes in order to generate a methane-rich gas. This gas is then used instead of fossil fuels to generate electricity. After the gas is produced by the AD plant, liquid and fibre is left over from the waste. This can be pasteurised using heat generated by the anaerobic digestion process. The fibre can then be air dried and added to growing media where it adds to the growing media's bulk. The fibres can also act as a slow release fertiliser, depending on what waste has been used in the process.





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