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## Developments in Growing Media Policy and Usage in the U.K.<sup>©</sup>

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### INTRODUCTION

There is an increasing trend among professional ornamentals growers to buy in growing media rather than to home mix. As labour costs represent ever-higher proportions of the overall nursery budget this is regarded as a sensible option for many growers. However, a trend observed by suppliers of growing media is that growers are inevitably less well-informed than they used to be about the ingredients they use and the various factors affecting the choice of ingredients. This paper explains some of the issues facing the growing media industry today and aims to help growers understand the growing media options available to them.

### GOVERNMENT STANCE ON GROWING MEDIA

The U.K. government is committed to reduce peat use under its Biodiversity Action Programme. The 2005 target of 40% of total market requirements for soil improvers and growing media to be supplied by non-peat materials was exceeded in that year. The target for 2010 was set at 90%.

Latest figures from the U.K. Department for the Environment, Food, and Rural Affairs (DEFRA) show that in 2007 the total volume of peat and alternatives used in soil improvers (which include mulches) and growing media was 6.61 million m<sup>3</sup>, up from 6.46 million m<sup>3</sup> in 2005. The overall proportion of peat in these products fell from 53% in 2005, to 46% in 2007. Although this figure is ahead of the government's 2005 target, at the current rate of peat substitution it is unlikely that the 2010 target will be met.

The U.K.'s Growing Media Association (GMA) has held discussions with DEFRA about the likely action in the event of the targets not being met. It appears that while legislation is considered to be a last resort, there is an expectation that the horticulture industry needs to play its part. Department of the Environment, Food and Rural Affairs is just one partner in a new project aimed at protecting and enhancing all peatland soils. The Environment Agency, Natural England, the Welsh Assembly, and the Forestry Commission are partners in the new strategy to co-ordinate activity and facilitate action. The horticultural use of peat is part of the project and the Defra targets are enshrined within it.

### GROWING MEDIA INITIATIVE

It is well known that the horticultural use of peat has been controversial for nearly two decades. The figures show that considerable progress has been made, even though the 2010 target is unlikely to be met. In 2005 an ad hoc group of interested

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<sup>1</sup>The author was chair of the UK's Growing Media Association [February 2007 to February 2009]

parties including DEFRA, the Royal Society for Protection of Birds (RSPB), the Royal Horticultural Society (RHS), the Growing Media Association and a major retailer, came together to discuss a way forward. It was recognised that there has been very little consumer demand for change but that the threat of greater restrictions from government was likely if more progress was not made on peat reduction.

By 2008 the group had expanded to include representatives from all sides of the debate and, led by the Horticultural Trades Association (HTA), launched the Growing Media Initiative (GMI).

The scheme, aimed initially at the amateur gardener market as this is the largest single user of peat, has been designed to encourage the manufacture and purchase of peat-reduced and peat-free growing media. It is designed to reward companies that either make or sell amateur growing media that contain less peat, and to make the general public more aware of the environmental issues involved. Department of the Environment, Food and Rural Affairs has awarded the GMI a small amount of funding and there is no doubt that the existence of the scheme has helped to show the government that the horticultural industry is taking the issue seriously. Founder members include retailers such as B&Q, and Homebase; and media brands such as Scotts Miracle-Gro, Vital Earth, Westland, and Melcourt.

Although the scheme is aimed at the growing media used by amateur gardeners, who use more than two-thirds of the peat sold in the U.K., it is likely that there will be an effect on growers, particularly those selling to the multiple retailers, who increasingly see peat reduction as an important part of their social responsibility agendas.

## **CARBON EMISSIONS**

It is unlikely that many growers are basing their growing media choices on the level of carbon emissions from each ingredient, although we are all familiar with the charge against coir that it carries a heavy environmental burden because of the distance involved in transporting it to the U.K.

As part of the partnership project on peatland soils mentioned above, DEFRA has commissioned University of Warwick's Horticultural Research Institute (HRI) to carry out a study on the carbon emissions associated with the major ingredients of growing media used in the U.K. Due to report by the end of the year, the study has taken as its framework the complete life cycle of each major ingredient, i.e., changes in land use, extraction and collection, processing, distribution and application and end use. No figures are available from the HRI study at the time of writing but figures from other sources, including suppliers, are becoming available.

Media supplier Melcourt, for example, sources much of its pine bark from northern Spain. It is technically a very good bark for growing media, is in plentiful supply, and holds Programme for the Endorsement of Forest Certification (PEFC), environmental certification, which is similar but not identical to Forest Stewardship Council certification (FSC). The bark is collected from several sites across north western Spain, and shipped loose in the hold in quantities of around 4,000 m<sup>3</sup> at a time. It comes into Avonmouth, on the Bristol Channel, which is about 30 miles from Melcourt's pine production depot in Gloucestershire. Early indications from the company's investigations are that the emissions per cubic metre of compost for

the several hundred mile trip from Spain in the boat are only 15% more than the 30 mile trip by lorry from the port to the company's depot. The reason for this is that the carbon emissions for sea freight are some 15 times less per tonne per kilometre than road freight.

Given the degree to which coir can be compressed — 6 to 1 — and the fact that it is very dry and light, it may emerge that the environmental case against it is not very strong.

### QUALITY STANDARD

The need for a quality system for growing media has been discussed for many years at the Growing Media Association, but members had been very aware of the scale of the challenge in creating a worthwhile scheme from scratch. The Dutch RHP certification scheme was considered, but felt by most members to be too costly and not relevant enough for the U.K. market.

The U.K.'s British Ornamental Plant Producers certification scheme (BOPP) offers all sectors of the ornamentals industry a standard quality certification system that is internationally recognised by all parts of the supply chain. It covers parameters such as production, marketing, social, and environmental and is fully United Kingdom Accreditation Service (UKAS) accredited.

The BOPP scheme emerged as a useful model and after development of a growing media standard by the Agricultural Development and Advisory Service (ADAS) consultancy service in 2008, the BOPP Growing Media Producers Standard was launched. It is hoped that most Growing Media Association member companies will become members and also that companies holding the standard will be exempt from other audits. All aspects of a company's systems are covered by the standard including quality management, process control and monitoring, labelling, transport, customer service, health and safety, environmental policies, and staff management and training.

### GROWING MEDIA INGREDIENTS

**Peat.** Peat remains the principal ingredient for professional growers. Although the latest DEFRA figures show that across the whole market peat now accounts for less than half of the total volume of growing media, in professional growing it still accounts for 81%. Of the peat used across all markets 54% comes from Ireland, 43% from the U.K. and 3% from Northern Europe.

**Bark.** This remains the second most popular growing medium ingredient for professional growers, used as much for its technical merits as for peat replacement. Other by-products from forestry operations are increasing in importance. Extruded wood products are becoming more widely available, although the principal product for professional growers is imported and at present regarded as too expensive for wide uptake. Recycled wood is available in increasing quantities but a lot of care is needed when sourcing this as glass and metal removal remains a challenge for most producers.

**Green Compost.** This is also available in ever larger volumes and is now second only to bark in terms of volume used across the entire market, use having risen by 50% in the last 2 years. However, within growing media (both professional and amateur), the average inclusion rate was 8%.

It is interesting to note that as conventional fertilizer costs have risen sharply, farmers are turning to green compost as an alternative nutrient source. Green compost remains a controversial ingredient for many growers but there are good reasons for considering it as long as certain conditions are met. It provides a useful source of slowly-released nutrients, contains a diverse microbial population that can help to restrain root diseases, can provide extra bulk density, and it is low cost in comparison to other ingredients.

However, it should only be used at rates of up to 40% of the mix because of high pH and conductivity levels and it should only be sourced from certified suppliers who know that high quality and consistency are paramount. In most cases it is therefore the growing media manufacturer who is best placed to formulate mixes based on green compost. They are more likely to be dealing with larger volumes and can engage the commitment of the supplier more easily.

**Coir.** This is used with success by many growers and is used extensively in The Netherlands and Belgium for strawberry production and pot plants. In the U.K. it represents 3% of the peat-alternative materials used, which is a reflection of its relatively high price. Coir has always suffered the reputation of being environmentally unfavourable because of the transport distance and because it is an important source of soil organic matter in the country of origin. The HRI study on greenhouse gas emissions will demonstrate whether coir is any worse than any other ingredient in this respect.

Other growing media ingredients, including loam, grit, perlite, and vermiculite are usually incorporated into growing media at low volumes of around 5% to 10% and as such only account for a very small proportion of the total.

## POT MULCHING

There is an increasing trend among growers to reduce herbicide inputs not only because they are time demanding and costly to apply but also because of the environmental side effects.

Many growers are turning to pot mulching as an alternative. There are various materials available including woven coir mats of pre-formed size and loose bark mulches. As well as controlling moss and liverwort and reducing the vigour of weeds they offer many other advantages. They are very easy to apply either by hand or by machine, with minimal requirement for protective clothing and no formal training required. They do not damage stock and there are no restrictions in use on protected crops. They also prevent moisture loss from the pot surface with water savings of up to 20% being reported.

## REFERENCES AND FURTHER INFORMATION

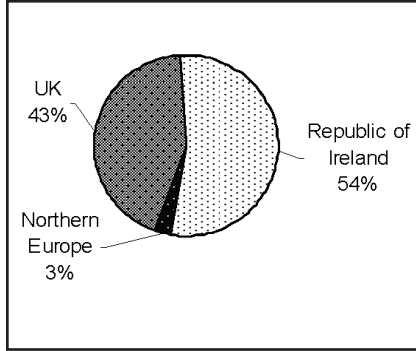
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**Figure 1.** The Growing Media Initiative Logo.



**Figure 2.** Sources of peat supplied to all horticultural markets on the U.K. (2007). Source: Department of the Environment, Food and Rural Affairs.