



HTA

AHDB



GROWING MEDIA
association



Department
for Environment
Food & Rural Affairs

Growing Media Monitor Report

TRENDS IN THE COMPOSITION OF UK
GROWING MEDIA SUPPLIED 2011 TO 2022

Summary

Peat as a proportion of growing media fell from 36% in 2021 to 24% of total volume in 2022. In terms of volumes, 741,000 cubic metres less peat was supplied in 2022 compared with 2021. This was due to the continuing trajectory of peat removal from the supply chain, and a return to more normal demand in 2022, after a lockdown boom in gardening throughout 2020 and 2021.

Increasing specification of peat free by retailers, growing proficiency in manufacturing peat-free product, and the lack of availability of peat from the Republic of Ireland have rapidly accelerated peat removal from the retail sector.

In the professional sector, there has also been substantial downward movement in the proportion and volume of peat used over the last few years. Critical success factors for further accelerated removal of peat include the availability of alternatives. Whilst use of wood-based materials such as wood fibre and bark has increased, competition for this raw material with other industries remains intense.

ALL (INC. EXPORTS)	2020	2021	2022
Growing media	5.59 m ³	4.77 m ³	3.96 m ³
Peat	2.29 m ³	1.69 m ³	0.95 m ³
Other materials	3.30 m ³	3.08 m ³	3.01 m ³
Percentage peat	41.0%	35.5%	24.0%

(volumes in millions of cubic metres)

RETAIL	2020	2021	2022
Growing media	4.28 m ³	3.43 m ³	2.80 m ³
Peat	1.52 m ³	1.02 m ³	0.47 m ³
Other materials	2.76 m ³	2.41 m ³	2.33 m ³
Percentage peat	35.5%	29.8%	16.8%

(volumes in millions of cubic metres)

PROFESSIONAL	2020	2021	2022
Growing media	1.16 m ³	1.21 m ³	1.05 m ³
Peat	0.72 m ³	0.63 m ³	0.46 m ³
Other materials	0.44 m ³	0.59 m ³	0.60 m ³
Percentage peat	62.3%	51.7%	43.3%

(volumes in millions of cubic metres)



Introduction

This report provides the results of the 2022 joint Defra, AHDB, GMA and HTA growing media monitoring study. It takes the available data in the time series from 2011 up to 2022. The study reviews the make up of growing media sold by manufacturers to the UK's retail, professional use and export sectors. The study measures and tracks the proportion and volume of ingredients used in growing media over time.

The study, funded by the Horticultural Trades Association (HTA), the Department for Environment, Food and Rural Affairs (Defra), and the Agriculture and Horticulture Development Board (AHDB), forms part of the work undertaken in the UK to maximise the sustainability of growing media. This builds on several years' work, which includes support for research and development into peat-free and reduced-peat mixes funded by Defra and the AHDB within CP 138 'Transition towards responsibly sourced growing media in UK horticulture' which culminated in a model to predict the performance of raw materials and blends.

Growing Media manufacturers, working with environmental NGOs and Defra, have also developed and in 2022 launched the Responsible Sourcing Scheme for Growing Media. Signage and labelling for the scheme now appears on growing media product on sale in garden retailers. The scheme and the calculator behind it assesses the environmental and social impacts of different ingredients in growing media against a range of criteria, helping the industry assess the overall footprint of its products taking into account all ingredients in a product.

Research published by Oxford Economics highlights that the UK's horticulture and landscaping industry contributes £28.8 billion to the UK's GDP and supports (directly or indirectly) around 1 in 54 jobs in the UK economy. Much of this is supported by and to some extent dependent on growing media. Without sufficient high-performing growing media, commercial plant production in the UK is constrained. In the amateur sector without sufficient good quality growing media available in retail sales of items such as seeds, plants, and the containers which depend on growing media for their utility are likely to fall.

Access for UK growers to good quality growing media is essential in maintaining competitiveness against overseas suppliers to the UK horticulture market. At no point in time over recent years has this been more apparent than in 2020 and 2021, where the Covid-19 pandemic lockdowns have driven a huge increase in participation in gardening placing unprecedented demands on the horticulture supply chain. This report paints a picture of the changing use of raw materials on which the industry relies to deliver these benefits to the UK's economy and environment. The report also discusses some of the trends and market forces affecting the reported numbers.

The full dataset supporting the findings described in this report is also available to download.

Approach

Research Objectives

The following objectives were established for the purpose of this research:

1. To measure and track over time the volume of growing media supplied by growing media manufacturers for retail and to professional customers, and for export
2. To measure and track over time the composition of this growing media in terms of the ingredients used
3. To provide a short explanatory commentary on the data and trends that affect the data

Method and Sample

For around twenty years the growing media industry has collated data on the use of ingredients in its product. In 2012 a new project and method was developed with funding from the industry, Defra and the AHDB. This project ran to 2016, and provided data from 2011 to 2015. The project was recommissioned in 2018 providing comparable data from 2011 to 2015, and 2018 to 2022.

To identify an appropriate sample for the research, the GMA conducted an audit of supply to the UK market based on their collective market knowledge and competitive intelligence. All companies so identified were approached to take part in the research, with most taking part. Over nearly a decade the market landscape has changed through acquisitions and mergers, but on the whole there have been few drop-outs or refusals to participate. Appendix 1 details businesses which submitted data for the 2018, 2019, 2020, 2021 and 2022 waves of this research and sampling considerations.



The data from manufacturers is collected by an independent consultant Paul Waller Consulting (PWC), and is provided on a confidential and anonymised basis. Participating companies provide a completed spreadsheet template to PWC detailing the volume of different growing media components that they used in their UK sales. On receipt of the data, PWC checks submissions for anomalies and clarifies these with participating companies, and PWC's work is then audited to check for errors or anomalies.

Company level data is not shared with either Defra, the AHDB, HTA or the GMA. Each participating company in the study is provided with an output which shows their own business' performance relative to the average position for the industry. In 2021 minor changes to the methodology were made.

Firstly, some product categories were adjusted. This was designed to give more detail on peat-free categories which had previously been recorded only as a single reporting unit, and to ensure comparability between trends in peat-free and peat-based products. The second was to include volume data on products such as soil improvers which do not contain peat. Previously only products of this nature that contained peat were included. However, to ensure the validity of year-on-year trends, the charts and analyses are all prepared on the basis that this volume is excluded from calculations. The data is available in the detailed data set that accompanies this report, and in future years will be used for time series analysis.



Findings

The study provides detail separately on growing media for use by professional customers (e.g. commercial growers) and for retail (e.g. that sold to the general public). Full data for this report is on <https://hta.org.uk/news-events-current-issues/sustainability/growing-media> or by email from media.office@hta.org.uk

Retail sector findings

Key context to the 2022 data is a reduction in the overall volumes of growing media supplied to the retail market as demand for gardening returned to more typical levels seen prior to 2020. As reflected in the ‘spike’ in the 2020 data shown in Figure 1, in the summer of 2020 and early spring of 2021, consumer demand for garden products saw unprecedented levels of growth during lockdowns and suppliers struggled to increase output enough to supply the demand. Scarcity of supply prompted retailers to order earlier, meaning the 2020 figures are likely to include volume that retailed in 2020 and 2021, so it is no surprise the 2022 data shows a significant fall on this period. Garden centre sales data shows that sales within garden/gardening categories were 3% up in 2020 compared to 2019 despite 8 weeks fewer trading time, due to the forced closure of garden centres during the first COVID-19 national lockdown, whilst 2021 calendar year gardening category sales were up 65% on 2019. Demand for plants and gardening is a key indicator of demand for growing media. Overall volumes returned in 2022 to around the levels seen pre-2019 as gardening demand returned to more normal levels. Gardening category sales were down 13% in 2022 on the 2021 calendar year.

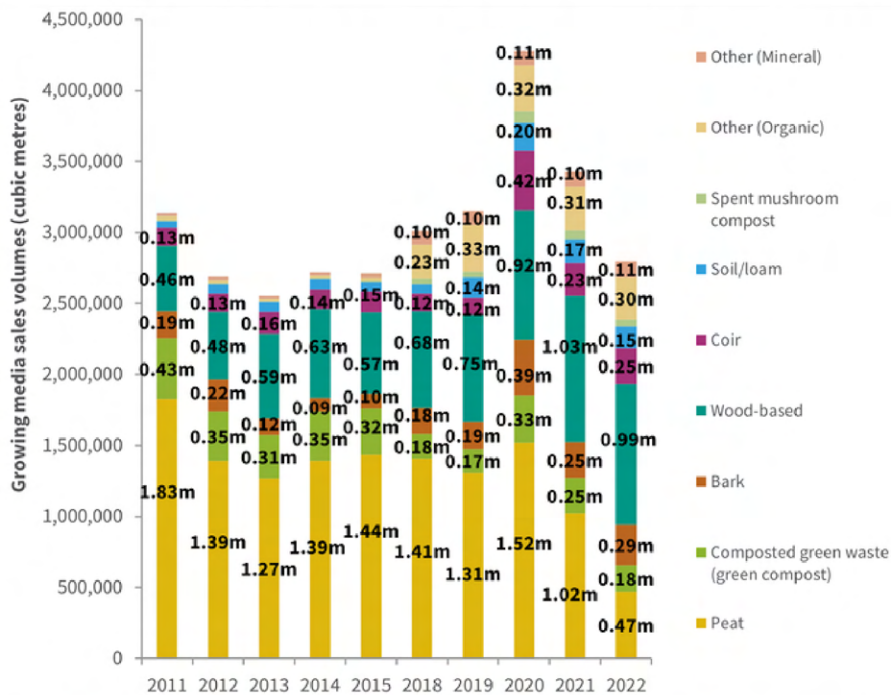


Figure 1. Overall volume (cubic metres) of ingredients used in growing media in the retail sector between 2011-2022

In 2020, although the proportion of growing media accounted for by peat fell to 35.5% from 41.5%, the volume of peat used had increased to 1.52m cubic metres from 1.31m cubic metres. In 2021 more ‘normal’ conditions returned to the market and in 2022, the proportion of growing media supplied to retail accounted for by peat continued on a downward trajectory, falling from 29.8% in 2021 to 16.8%. In volume terms, the actual amount of peat used more than halved from 1.02m cubic metres to 0.47m cubic metres.

As per 2021, wood-based materials (mainly wood fibres derived from wood chip) are now the most voluminous ingredient, accounting for 35.5% of total growing media supplied to retail (see Figure 2). Ingredients replacing the peat removed from the supply chain included bark which increased from 7.4% of total growing media volume supplied to retail in 2021 to 10.3% in 2022; coir which increased from 6.8% to 9.1% and other organic materials (mainly novel materials which are not disclosed due to commercial sensitivity) which increased from 8.9% to 10.6%. The volume of composted green waste (green compost) as a proportion of all ingredients used in growing media for the amateur market declined, reflecting some of the challenges around consistency and vulnerabilities in the supply chain of peat alternatives for UK growing media. To further highlight this, coir volumes fell from 2020 to 2021 (before rising again in 2022), as a result of the overall fall in volume of growing media supplied but also the particular difficulties in sourcing coir from Sri Lanka and India in 2021 given the severe impacts of Coronavirus lockdowns in these countries which affected production and global shipping capacity.

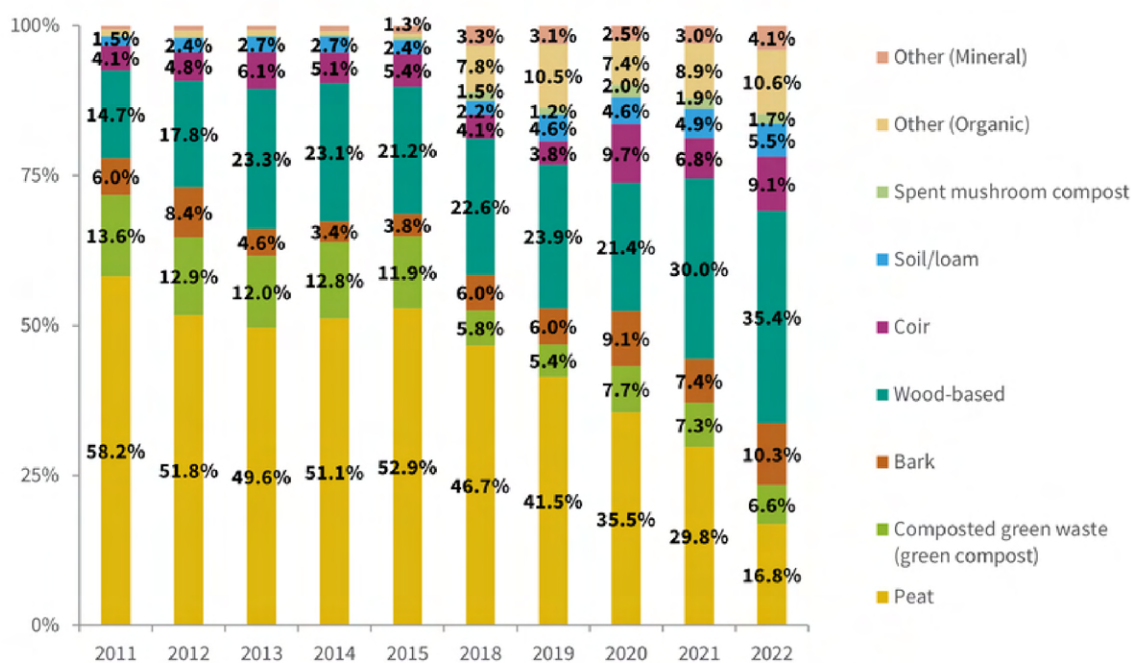


Figure 2. Total volume (%) of ingredients used in growing media in the retail sector between 2011-2022

With regards to product and category level analysis, peat-free products have continued to gain market share in 2022. Despite the overall fall in volumes of growing media supplied to the market in 2022, peat-free product increased its volume from 0.67m cubic metres to 0.96m cubic metres (see Figure 3) – a 43% increase in volume. Over 2022, peat-free products accounted for 34% of growing media supplied to retail, up from 20% in 2021 (see Figure 4).

Whilst this has played a big part in the overall reduction in the use of peat in the retail sector, it is not the sole driver of change. In the 1.37m cubic metres of peat-based multi-purpose growing media supplied in 2022, 0.37m cubic metres of this was made up of peat (27%). The equivalent proportion in 2021 was 40%, highlighting a significant reduction in the proportion of peat contained within peat-based products. This is significant insofar as peat-based multipurpose product accounted for 49% of the volume sold into retail in 2022, and so movements in this category have a disproportionately high impact on overall peat supply.

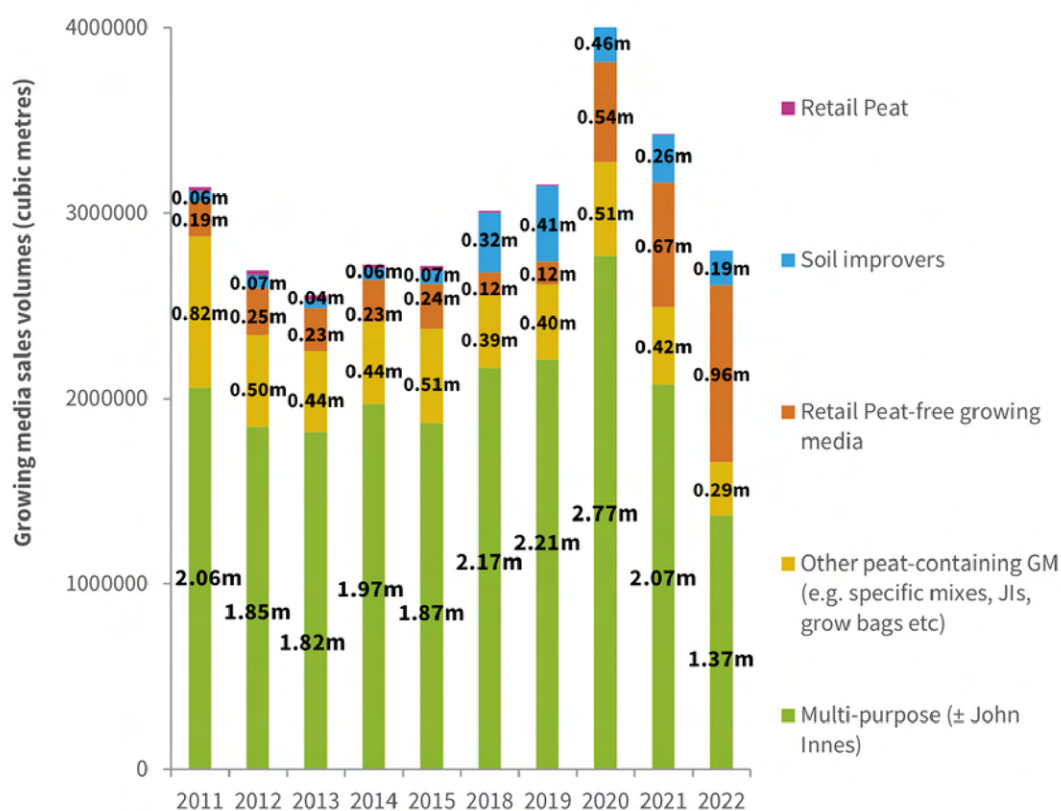


Figure 3. Overall volume (cubic metres) of growing media for the retail sector between 2011-2022

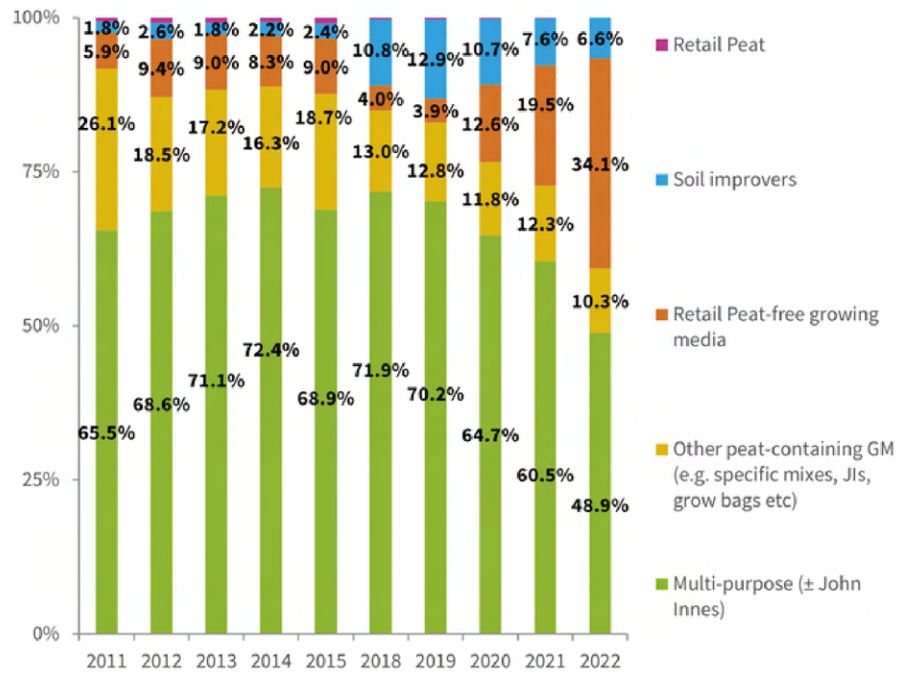


Figure 4. Overall volume (%) of growing media for the retail sector between 2011-2022

In peat-based growing media products, multi-purpose composts account for 83% of the volume of product supplied, with the other 17% accounted for by specialist products such as John Innes, grow bags or mixes specifically for plants such as ericaceous, citrus, cacti etc. This split is identical to that of 2021.

In peat-free growing media products, multi-purpose composts account for 86% of the volume, showing that multi-purpose product is the dominant product in both peat-based and peat-free categories. However whilst this difference is slight, it also reflects some of the technical challenges manufacturers face in developing reliably-performing mixes for specific types of plants and gardening purposes, for instance specialist product for ericaceous plants.

Overall, in retail, there has been a continued rapid acceleration in the removal of peat from 2021 to 2022. In absolute terms, peat use in retail growing media fell by 54% between 2021 and 2022. Significant progress has been made in retailers' specifying and requesting peat-free and peat-reduced product, and in manufacturers' ability to bring peat-free formulations to market. However, further reduction and removal of peat from amateur retail growing media is likely to rely on availability of sufficient quality peat-alternatives, and manufacturer capacity to process these raw materials into sufficient product supply to meet demand.

Professional sector findings

In the professional sector, the absolute volume of growing media supplied in 2022 decreased by 13% from 2021 as consumer demand for gardening tapered off post-pandemic back to more 'normal' pre-2019 levels. Garden centre sales within the outdoor plants categories were down 15% for the 2022 calendar year compared with 2021[1], highlighting the reduced demand for growing media in plant production. This study excludes the collection of data on peat usage in mushroom casing.

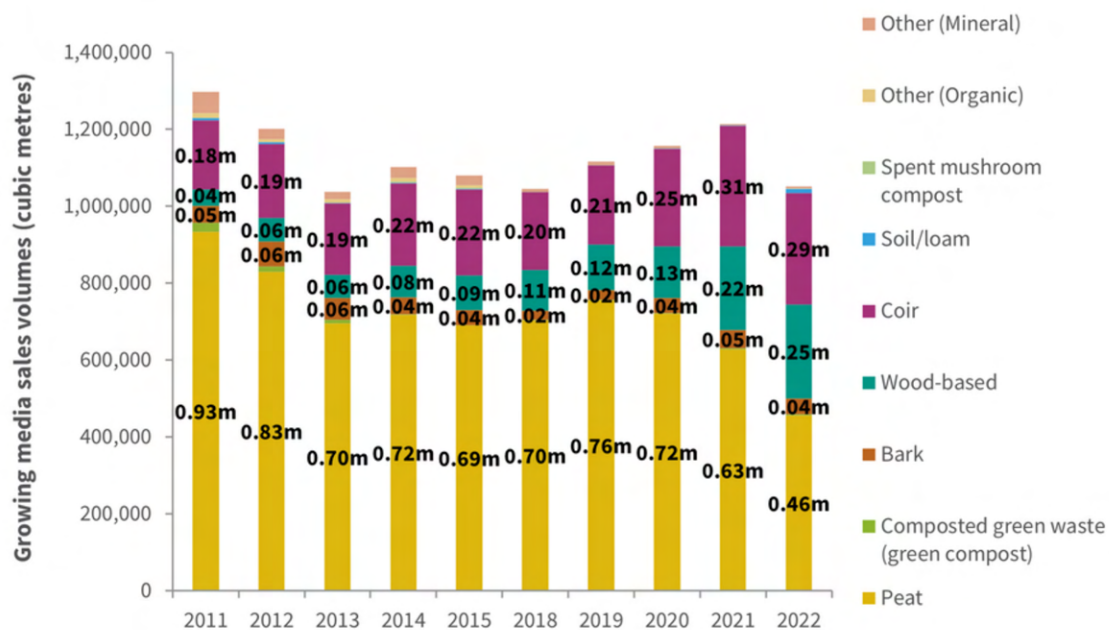


Figure 5. Volume (cubic metres) of professional growing media supplied by component ingredients

The 2021 'spike' in the data shown in Figure 5 reflects the fact that UK horticultural production was locked-down from late March to late May in 2020, with the most significant route to market – garden centres – closed until mid-May; increased consumer demand for garden plants in this period was to a substantial extent met through imports, before UK production restarted at high speed with the confidence that garden centres were classed as essential retail in future lockdowns and demand was buoyant.

For the first time in the history of this study, in 2022 the proportion of professional growing media volume accounted for by peat fell below 50% and by a significant margin to 43.3% (see Figure 6). A HTA survey of growers found that figure to be 45%, suggesting that the manufacturer and grower data is telling consistent story.

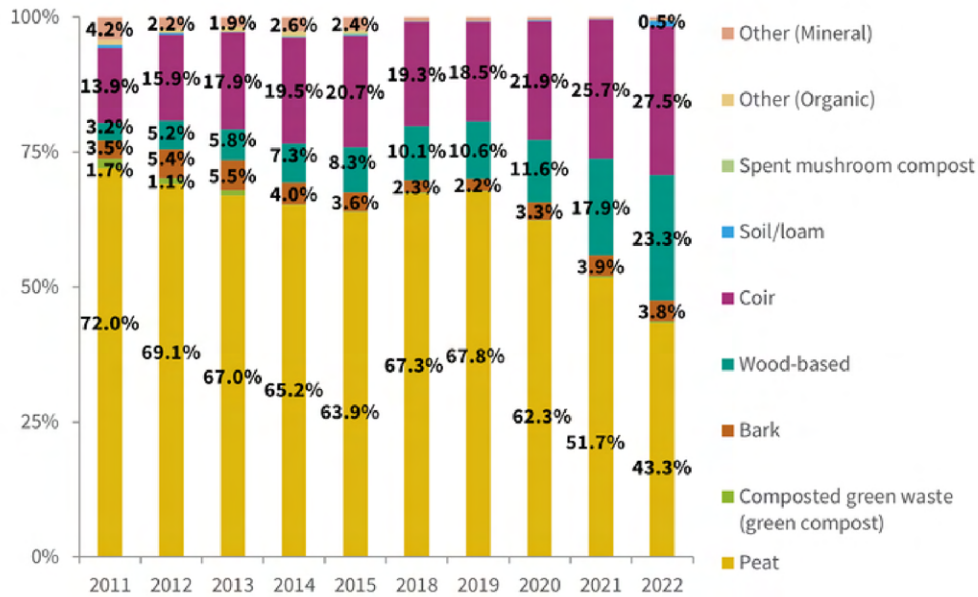


Figure 6. Proportion of professional growing media accounted for by component ingredients

This continues the pattern of rapid removal of peat from the professional supply chain which accounted for 62.3% of volume in 2020 and 51.7% in 2021. The actual volume of peat used fell from 0.63m cubic metres in 2021 to 0.46m cubic metres in 2022. The ‘gap’ has been filled by coir and wood-based materials, which now account for 27.5% and 23.3% of volume respectively. These three materials account for 94% of volume, with most of the rest being accounted for by bark.



In terms of trends in product types within the professional sector, peat-free professional growing media has increased both its volume and the proportion of total volume it accounts for. In 2021, professional peat-free accounted for 25.9% and in 2022 this increased to 30.9% (see Figure 8). As was the case in 2021, the data collected now allows us to review the types of growing media product that peat-free accounts for. Of the 0.33m cubic metres of professional peat-free product used in 2022 (see Figure 7), 68% of it (0.22m cubic metres) was growing systems such as growing bags, slabs and transplants; 99% of the volume for this type of product is made up of coir.

A total of 0.11m cubic metres of professional peat-free product is used for products and purposes other than growing systems (such as growing bags, troughs and slabs); this is likely to include the production of hardy nursery, bedding and pot plants. Notably this is almost double the volume used for these crops in 2021 (0.06m cubic metres). Comparing this 0.11m cubic metres of professional peat-free product with the 0.55m cubic metres of peat-based growing media used in the professional sector to produce nursery stock, pot or bedding plants suggests that roughly 16% of production took place in peat-free product in 2022. The equivalent figure in 2021 was 8%, [LJ1] meaning peat-free production has doubled in the last year. Of the 0.55m cubic metres of peat-based growing media used to produce nursery stock and bedding plant crops, 59% of this (0.32m cubic metres) is made up of peat. And importantly, 85% of finished ornamentals rely on peat to some extent.

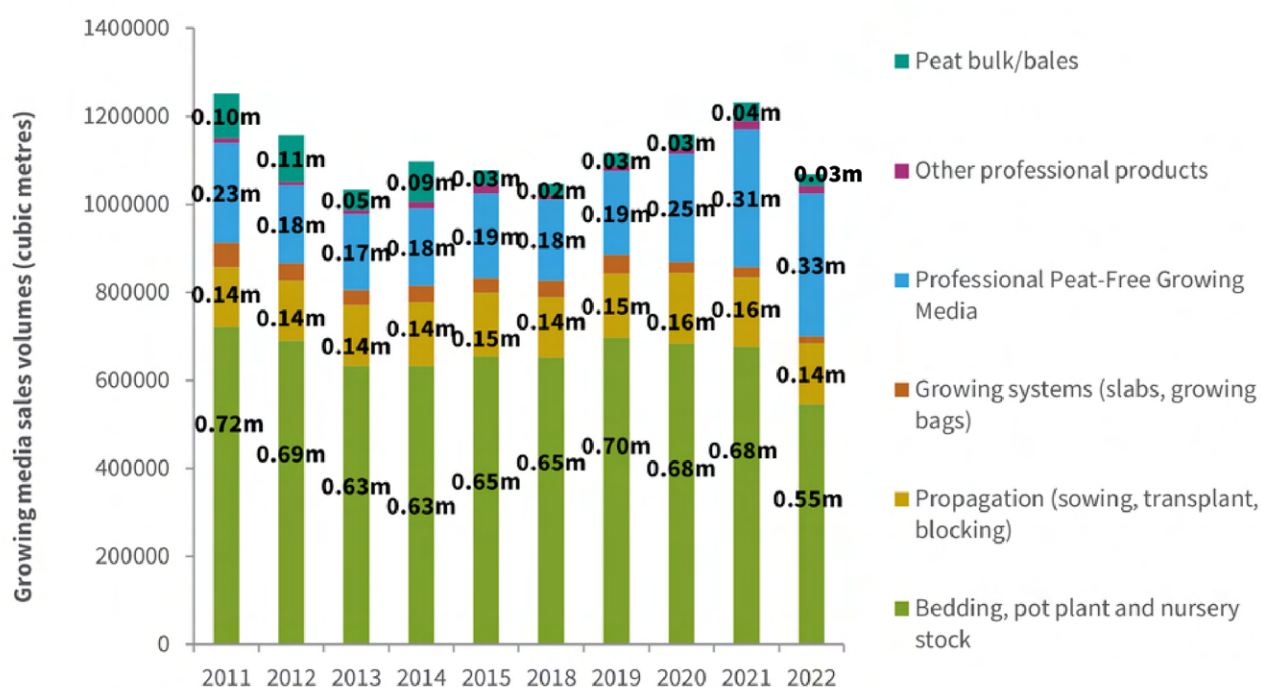


Figure 7. Volume supplied (cubic metres) of different professional growing media products

These data lead us to conclude that there are some foundations among UK ornamental growers on which to build in terms of transitioning to production of finished ornamental plants for supply into the retail and amenity markets. However, the knowledge of how to produce these finished ornamental crops reliably at scale is highly likely to be in its infancy and will require substantial knowledge transfer and trialling among UK growers. We also note for the purposes of transparency that these data relate only to supply of growing media for UK producers of plants; peat used by overseas growers who export plants to the UK are not captured in this data. It will be important in moving towards the removal of peat from horticulture in the UK that this is taken into account in future. A scenario in which reductions in peat use by UK growers are offset by increased imports of plants produced in peat at lower cost and/or higher yield from overseas growers would effectively be offshoring the UK's peat use.

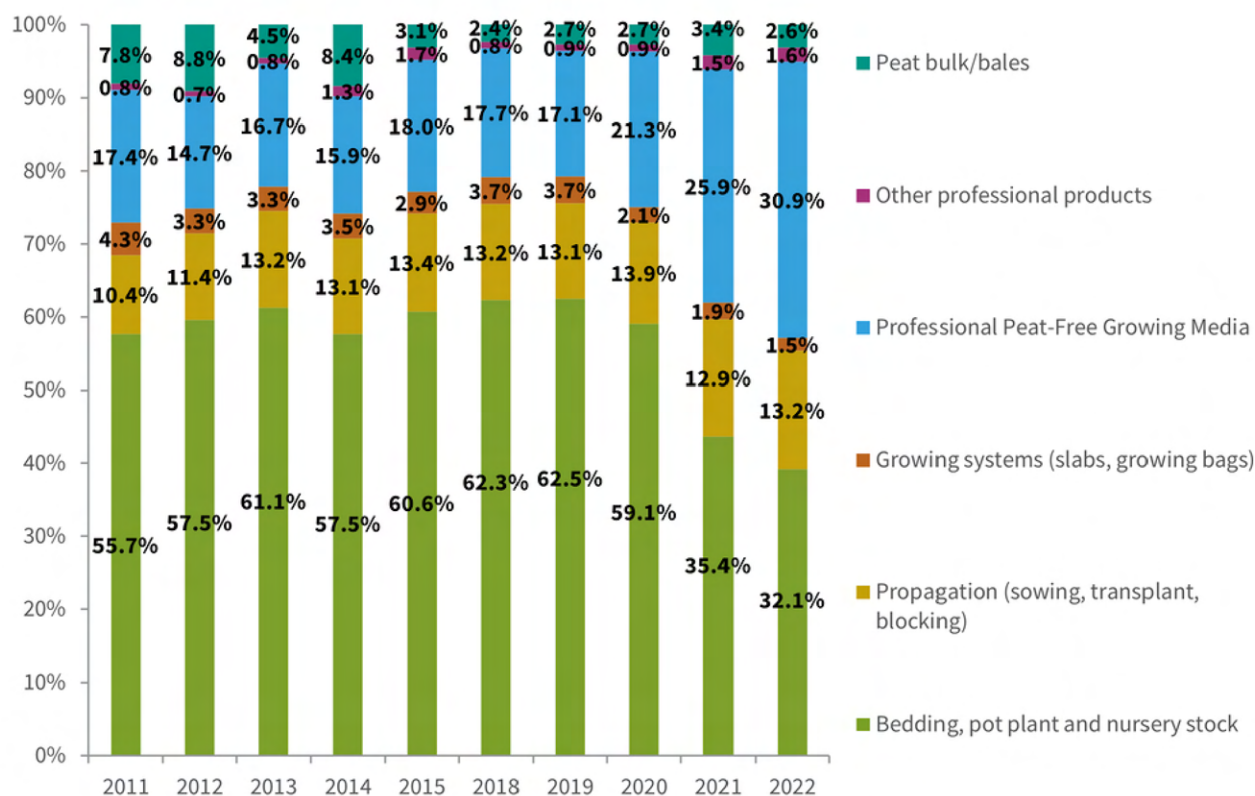


Figure 8. Proportion of total volume of professional growing media accounted for by different products

The origin of peat in the UK's Growing Media

Peat extracted for use in the UK has, historically, been sourced in part from the UK and in part from overseas, notably the Republic of Ireland. Indeed, at the start of this study in 2011, 50% of the peat used in UK growing media was sourced from the Republic of Ireland. Regulatory change in the Republic severely limiting the extraction of peat began to show an effect on the 2021 data, and still remains within the 2022 data as residual stocks were traded. In 2020, 1.17m cubic metres of peat was sourced from the Republic of Ireland. In 2021, this figure fell by around 0.4m cubic metres to 0.7m cubic metres and in 2022, this more than halved to 0.34m cubic metres. It is highly likely that almost all of the peat supplied in 2021 and all of the peat supplied in 2022 from the Republic had been extracted before the restrictions on peat extraction came into force. Narrative feedback from GMA members indicates this volume is likely to be from residual stock and traded inventory of the Greener Gardening Company which dissolved.

We conclude from this data, that growing media manufacturers supplying the UK market are likely to face growing challenges in cost effectively sourcing quality peat alternatives to substitute this volume. The geographically lengthier supply chains for peat alternatives such as coir and the extra transport costs this entails are likely to serve to increase costs in the supply chain. However it is no longer as clear cut as historically to say that peat comes at a substantially lower cost than alternatives. The lack of readily available 'local' supplies from the Republic of Ireland means that a greater proportion of the peat that is used is coming from further away in Europe, which also entails increased supply costs. We would conclude that the net effect of this is to increase the costs in general of the raw materials going into growing media. Without adequate access to alternative materials and the infrastructure to be able to process them in sufficient volume, there is a risk on shortages of supply to the market and/or of substantial price inflation on growing media supplied to the retail and professional sectors in the coming years. Garden centre sales analysis shows that the prices customers paid for growing media from February to April 2023 had increased by 7%, 9% and 8% respectively on the same months of 2022.

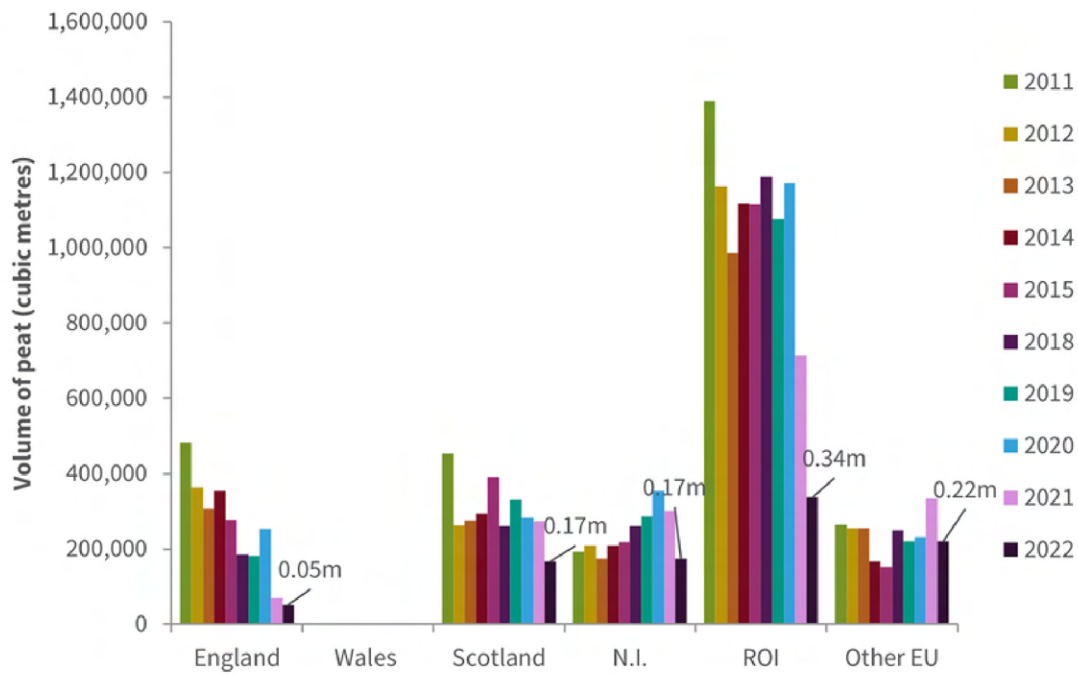


Figure 9. Volume (cubic metres) of peat used in growing media supplied to the UK by country of origin.

Overall peat use in growing media

Looking at the combined retail, professional and export supply of growing media and peat, 2022 has seen another significant downward movement. Figure 10 shows both the total volume of peat supplied, and the proportion of total growing media supply that this accounts for. After a blip in the volume of supply in 2020 reflecting the pandemic gardening boom, the volume of supply has resumed and accelerated its downward trajectory along with the proportion of the total accounted for by peat.

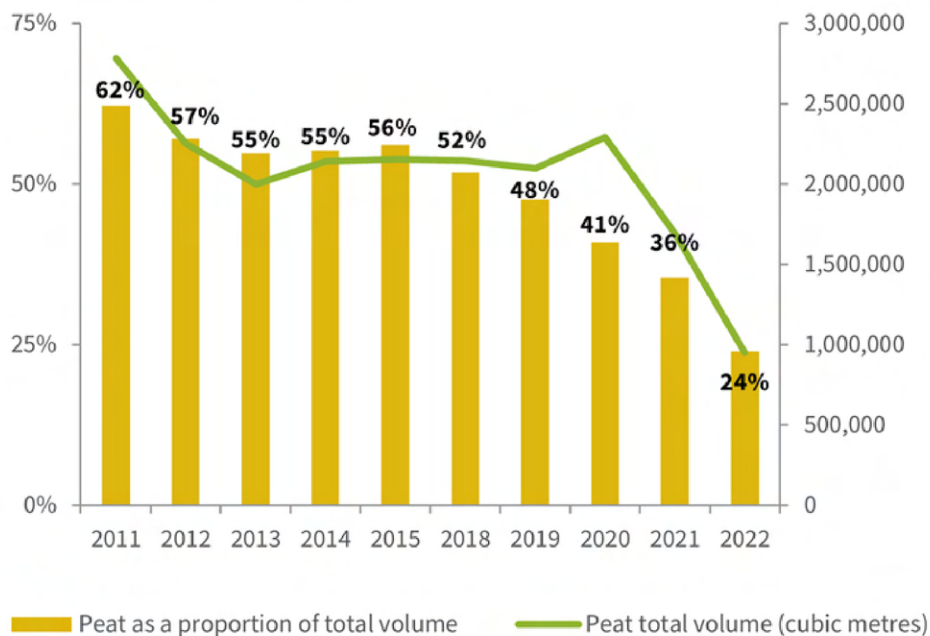


Figure 10. Proportion of total growing media volume (all sectors) that is accounted for by peat.

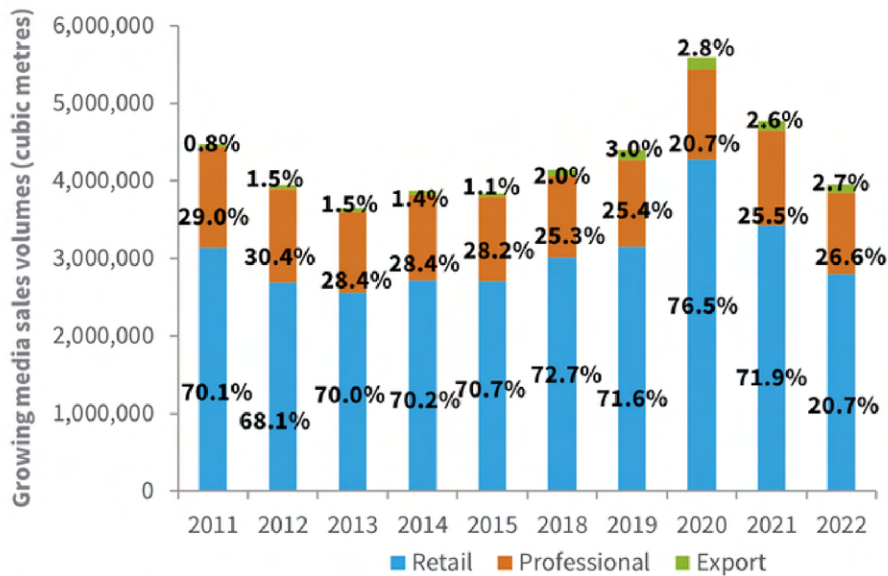


Figure 11. Split in volume (cubic metres) of growing media by sector

As in previous years, the bulk of the growing media supplied to the UK goes to the retail sector. We would conclude from the data in 2022 that peat removal in the retail sector is likely to continue accelerating on a downward trajectory given the demand among retailers for peat-free product and the increasing costs and difficulties of sourcing peat economically from within the UK and Ireland. In the professional sector there is now evidence emerging of movement away from peat in crop production, and we would conclude that this too is likely to accelerate as retailers increasingly adopt sourcing and buying policies that require peat-free production, and as growers trial and develop suitable mixes for different crops. Albeit sufficient availability of alternative ingredients to peat remains the key barrier.



Discussion

2021 saw volumes of growing media supplied to the amateur sector fall materially after the spike in gardening during the Covid-19 lockdown of 2020, and this decline continued into 2022 when demand returned to more 'normal' levels and residual stocks were sold through. Retailers faced difficulties obtaining sufficient supplies of growing media to meet demand, and so there was some stock-piling by retailers at the end of 2020 in order to meet heightened consumer demand going into 2021, causing the large year-on-year drop off. But as a proportion of the total volume of growing media supplied to the amateur market, peat volumes fell substantially and constituted 16.8% of total volume in 2022, compared with 29.8% in 2021. Absolute volumes of peat used in amateur growing media more than halved from 1.02m cubic metres to 0.47m cubic metres.

As noted, peat is now no longer the most voluminous component of amateur growing media, with wood-based materials such as wood fibres accounting for 35% of volume. In real terms however, the supply of wood-based materials decreased modestly from around 1.03m cubic metres in 2021 to 0.99m cubic metres in 2022. This reflects the challenges in sourcing wood-chip due to competing demand for the material in construction (for fibre-board manufacturers) and for production of wood-pellets for biomass power stations. The Renewable Energy Obligations fiscal incentives to encourage energy companies to transition towards renewable energy sources are likely to continue to incentivise the use of wood-based fuel in energy production, keeping costs high and limiting the availability of materials for horticulture unless other sources can be unlocked. Indeed, as described earlier in this report, data from the HTA's Garden Retail Monitor of garden centre sales showed that the average unit price for growing media product increased by between 7% and 9% between February and April 2023 compared with the same months of 2022, reflecting the increased costs of peat-replacements and of transport in the supply chain.

The proportion of volume comprised of 'other' materials (mainly novel materials which are not disclosed due to commercial sensitivity) is now 14% compared with 12% in 2021, making other materials the third most voluminous component. Bark now constitutes 10.3% of total amateur volume, whilst coir volumes and percentages increased from 2021 to 9.1% (0.25m cubic metres) after the serious impact of Covid-19 in India and Sri-Lanka on coconut production and port operations during 2020 for supply to the UK horticulture market in 2021. This latter-point brings into sharp relief the challenges of availability of different components in growing media as peat – a historically abundant and locally available resource – is removed from horticulture.

Peat-free products have continued to increase their market share compared with 2021. In 2022, peat-free product (e.g. bags containing no peat) accounted for 34% of volume supplied, compared with 20% in 2021; reflecting a 43% increase in peat-free volume supplied. This indicates retailer demand for peat-free product in the supply chain, with major retailers with sufficient buying power to drive change in manufacture now laying out peat-free buying policies. Whilst this is clearly a powerful driver of change and suggests likely further future movement away from peat, should alternatives not be available the risk is that smaller retailers without such buying power will not be able to access peat-free products, or that the proportion of peat used in peat-based products will increase in order to satisfy the demands of the major retailers. So far this appears not to be the case; the peat content of peat-based multi-purpose composts fell from 40% to 27% between 2021 and 2022. However, access to alternatives to continue this momentum is now the critical success factor in the industry being able to remove peat from supply to retail whilst still satisfying consumer demand for gardening.

In the data for the professional sector two trends are noticeable: a decrease in total professional growing media volume and a marked reduction in peat between 2021 and 2022. The volume of growing media supplied to the professional sector in 2022 compared with 2021 decreased from 1.21m cubic metres to 1.05m cubic metres as consumer demand for gardening returned to more normal levels post-pandemic. As discussed earlier in the report, garden centre sales within the outdoor plant categories were down 15% for the 2022 calendar year compared with 2021, resulting in less growing media needed for producing the lower volumes of outputs needed by retail.

In terms of peat use, the proportion of peat fell from 52% in 2021 to 43% in 2022. Volumes fell from 0.63m cubic metres to 0.46m cubic metres. In 2021 peat-free professional product accounted for 25.9% of volume supplied to the professional sector, and in 2022 this had increased to 30.9% on a like-for-like basis. Analysing the product breakdown of professional peat-free product shows that the bulk of peat-free product (83%) is made up of growing systems such as growing bags, slabs and troughs. A comparatively smaller proportion of peat-free product (0.11m cubic metres) is used in the production of finished ornamental crops such as bedding, pot plants and nursery stock, though notably this is almost double the volume used for these crops in 2021 (0.06m cubic metres). We can infer (but not definitively prove) from this that that roughly 16% of finished ornamentals production took place in peat-free product in 2022. The equivalent figure in 2021 was 8%, meaning peat-free production has doubled in the last year. We should note though that the time frames for our data gathering and reporting cycle potentially misrepresent the current 'state of play' in professional horticulture. The data collected for manufacturers identifies growing media volume of 139k cubic metres of peat being used for propagation (sowing, transplant, blocking) in the professional sector.

Due to the limits on data collection at present this cannot be broken out any further, and nor can the split of this volume between use for production of edibles as opposed to ornamentals be identified within the data set supplied by manufacturers. Given the specific challenges of removing peat from propagation, it is worth highlighting two pieces of work to examine and address the technical barriers to removing peat from this aspect of horticulture. The RHS is running a fellowship co-funded by growers focused on ornamentals, and the AHDB has published research into vegetable propagation: <https://archive.ahdb.org.uk/vegetable-propagation-grower-led-peat-reduction-replacement-demonstration-trials-2021>.

Ornamental crop production (and growing media consumption) mostly occurs early in the year as crops are produced for the peat retail season (March to June). The 16% estimate therefore is likely to describe the 'situation on the ground' in early 2022, which was itself planned out in mid-to-late 2021. Planning currently (summer 2023) underway for the 2024 production season is likely ahead of this estimate again. Within the peat-based growing media used for producing bedding, pot plant and nursery stock crops, the proportion of peat used fell in 2022 to 59% from 68% in 2021, showing serious intent from UK ornamentals growers to move away from peat.

Since 2021 we've seen the first material and sustained falls in the use of peat for professional crop production. The changes reflect emerging grower confidence in working with peat-free and peat-reduced growing media at commercial scale, and a response to the aspirations to remove peat from the supply chain of major retailers with sufficient buying power and scale to drive change in the supply chain. The fact that some growers are now clearly producing crops in peat-free product suggests an opportunity to support further transition to peat-free production through knowledge transfer and further trials within professional production of different crops.



Appendix 1

Approach to sampling

Businesses to be approached were identified by the GMA in 2011 as being likely to account for a substantial proportion of materials supplied to the UK growing media market. This included businesses inside the GMA and those outside it. This list is reviewed regularly, with businesses approached to take part on a voluntary basis. Data is provided to PWC on a commercial and in-confidence basis. Other members of the GMA and the HTA do not have access to participating businesses' individual data. Overall, the bulk of volume of growing media supplied is to retail markets, with most of the rest accounted for by the professional market. The proportion supplied for export has remained negligible over the ten-year life of the study.

The table below details the waves of the study for which the identified companies provided submissions. Smaller Somerset peat producers, as in previous years, provided a narrative report to PWC in 2020 indicating that their use of components had not changed substantially since 2015 and that reusing this data would provide an accurate view of their current position. In 2021 no data was able to be obtained from Smaller Somerset (and some smaller Northern Ireland producers) via GMA contacts, and so their 2020 data was used in place of fresh data as a best estimate way of getting as comprehensive as possible view of peat use. We are also aware that CocoGreen, a reasonably sized supplier of coir have never contributed data to the study. Analysis of their turnover suggests that they produce an estimated 0.125m additional cubic metres of coir for growing media, which may mean a completely full view of the volumes aren't there; though we cannot ascertain the proportion of that volume that is supplied to the retail or professional markets, and conclusions on the general direction of travel are sound.

As noted earlier in this report, the data is provided by manufacturers and taken in good faith. Although checks on the validity and any exceptions are performed in the course of producing this report, neither PWC nor the HTA is in a position to audit, inspect, nor verify the actual components of shipped product against the returns provided for this report.



Supplier/Brand	2011-2015 cohort data	2018 & 2019 cohort data	2020- 2022 cohort data
Bord na Mona (= Greener Gardening)	Yes	Yes	Yes
Bulrush Horticulture Ltd.	Yes	Yes	Yes
Durstons	Yes	Yes	Yes
Erin Horticulture	Yes	Yes	Yes
Evergreen Garden Care	Yes	Yes	Yes
EJ Godwin	Yes	Yes	Yes
Horticultural Coir Ltd	Yes	Yes	Yes
ICL (was Everris Ltd.)	Yes	Yes	Yes
Jiffy Products UK	Yes	Yes	Yes
Klasmann-Deilmann Ireland Ltd.	Yes	Yes	Yes
Melcourt Industries Ltd.	Yes	Yes	Yes
Roffey Ltd	Yes	Yes	Yes
Smaller Somerset Producers	Yes	Yes	Yes
Tref B.V.	Yes	Yes	Yes
Westland Horticulture	Yes	Yes	Yes
White Moss Horticulture	Yes	Yes	Yes
William Sinclair Horticulture	Yes	Yes	Yes
Botanicoir	Yes	Yes	Yes
BVB Substrates	Yes	No	No
Kekkila (Vapo Oy)	Yes	No	No
Clover Peat	Yes	Yes	Yes
Dutch Plantin	Yes	Yes	Yes
Legro	Yes	No	No
Petersfield Growing Mediums	Yes	No	No
Premium Horticulture	Yes	Yes	Yes
Vital Earth	Yes	No	No
Evergreen Peat	No	Yes	Yes
Southern Trident	No	No	Yes
Veolia Pro-Grow	No	No	No

Appendix 2

Peat extraction in the UK

Background

Defra requested that the HTA assess the current extent of peat extraction for horticulture in the UK to provide an updated input into the UK's national carbon accounts. The most recent previous data is from the Department of Communities and Local Government's mineral extraction survey in 2014, and which therefore provides an out-of-date view of peat extraction in Great Britain of 763k cubic metres in 2014.

To address this the HTA ran a pilot survey in late 2020 and early 2021 of GMA members asking for the hectareage from which peat was extracted in the UK in 2019, and the volume extracted (as opposed to the Mineral Extraction survey which only covered GB). Respondents were provided with the option to provide an average for 2017 to 2019 in terms of volumes to maintain commercial confidence. From this data HTA summed the returns to get to an estimate of UK hectareage and volume around the year 2019.

Extraction volumes will not exactly match use and sales data in this report due to fluctuations in storing and moving volumes of raw materials through the supply chain. Survey returns were received from all the main peat producers in the GMA known to extract from UK sites. Returns were received from Godwins, Durston's, Bulrush, Westland, Evergreen, and ICL. In UK peat extraction there is a 'long thin tail' of small companies outside of the GMA which extract peat whom did not provide data for this exercise.

To further validate the work on areas of extraction, The Growing Media Association conducted a review of the known sites from which peat is (in 2020) currently extracted. This will not exactly match with the survey data on extraction, as not all sites available for extraction will necessarily be used in any given year and the sampling approach is different. However the range should provide a robust assessment of peat extraction for horticulture that can be developed in future years.



Findings

The survey of GMA manufacturers recorded 811 hectares in the UK used in 2019 for peat extraction, although this excludes hectareage used by small, non-GMA members. This compares with the site by site review of hectareage from the GMA which found a maximum of 1,540 hectares of sites with the licensed potential to be used for extraction in the UK. Taking a midpoint between these areas would give 1,175 hectares, which would mitigate for any possible under-reporting due to sampling in the survey and any sites that have the potential to be extracted not being used in a given year.

In terms of volume, the survey returns totalled 588,324 cubic metres of peat extracted from UK sites in 2019. A caveat on this estimate is that two responding businesses reported a total across 2017 and 2019. In calculating the 588,324 estimate, these two returns were divided by three to arrive at an approximate annual figure. As noted, the data does not capture extraction from non-GMA businesses. The survey estimate compares with reported use of peat sourced from the UK in 2019 of 799,167 cubic metres (Figure 9).

The variance between sales and extraction is likely due to a range of factors, first of which is the exclusion of smaller extractors from the sample. Secondly, the two returns which provided a total for 2017-2019 will introduce potential for error. Thirdly, as peat decreases in the mix of growing media, there is less commercial reason to retaining large reserves of peat as a raw material. If peat manufacturers were reducing reserves in line with a transition away from peat, we might expect extraction to fall short of sales. The conclusion we would draw from the available data is that in 2019 peat extraction from UK sites ranged from a likely minimum of 600,000 cubic metres to a likely maximum of 800,000 cubic metres, and has likely fallen compared with the 2014 Mineral extraction survey for Great Britain (noting that this survey excluded Northern Ireland).

