

Project title: Tracking Peat usage in Growing Media Production

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Project leader: David Denny, HTA

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Key staff: Paul Waller
David Denny

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AUTHENTICATION

We declare that this work was done under our supervision according to the procedures described herein and that the report represents a true and accurate record of the results obtained.

[Name]
[Position]
[Organisation]

Signature Date

[Name]
[Position]
[Organisation]

Signature Date

Report authorised by:

[Name]
[Position]
[Organisation]

Signature Date

[Name]
[Position]
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GROWER SUMMARY

Headline

Between 2011 and 2015 the volume of growing media sold by manufacturers in the UK (including export sales) fluctuated between 4.5 m and 3.6 m cubic metres. 2015, the most recent year covered by the study, saw volumes remain within 1% of those reported in 2014.

In the professional sector of the growing media market, the proportion of volume accounted for by peat has fallen over all five years of the study. However, in the retail sector it has remained at similar levels since 2012, fluctuating between 50% and 53%. Since 2013, the proportion of peat in retail growing media has increased slightly but consistently from 50% to 53%. The use of coir ingredients has increased consistently, with green compost (composted green waste) accounting for broadly similar proportions of volume throughout the reporting period.

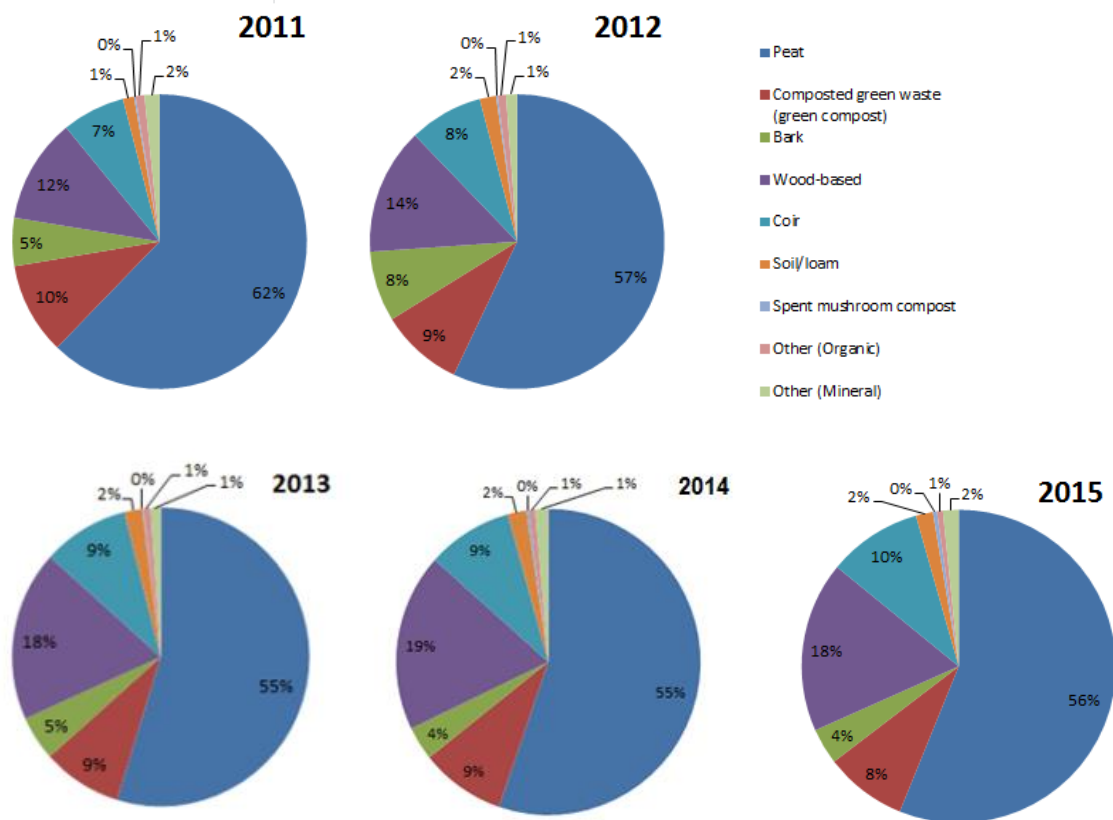


Figure 1. Summary of the proportion of overall growing media supply accounted for by different ingredients

Background

The overall aim of this project is to provide objective information of benefit to multiple stakeholders on the use of peat in UK horticulture. The research aims to measure the volume (cubic metres) of growing media (and associated volume of peat) sold by producers in the UK and for export from the UK. The project also aims to provide information on relevant trends from 2011 to 2015.

The project provides data to the industry and other stakeholders on changes in the use of bulky components of growing media including peat over time. It will inform the Growing Media Panel on the uptake of responsibly sourced growing media by the various horticulture and retail sectors.

The data collection is based on information submitted by growing media manufacturers which account for the majority of UK growing media supply, whether for amateur or professional use or export. Data¹ on 2011 were collected from manufacturers between October and November 2012. Data on 2012 were collected in February and March of 2013. Data on 2013, 2014 and 2015 were collected in February and March of 2014, 2015 and 2016 respectively. This report is based on these five rounds of data collection in the project.

Previous work has been conducted by Defra to monitor the composition of growing media. The latest data available from this project relate to 2009. Differences in the sampling and methodology of these two studies mean that data are not directly comparable. However, as part of the data checking for information gathered in this project the figures on the peat content of growing media have been cross referenced against data in the Defra project to check that the figures are broadly in line with what might be expected.

Summary

Overall sales trends 2011 to 2015

UK growing media supply for domestic use or export fell by 1% in volume overall in 2015 compared with 2014. In volume terms this equates to a fall from 3.88 m cubic metres to 3.84 m cubic metres. In terms of growing media supplied for retail (amateur use), volumes were essentially unchanged (2.72 m cubic metres to 2.71 m cubic metres). For professional use the equivalent figures are a 2% decrease, with volumes falling from 1.10 m cubic metres in

¹ Request Appendix for a copy of the form used for data collection.

2014 to 1.08 m cubic metres in 2015. Production for export accounts for a very small proportion of overall supply (1.1% in 2015).

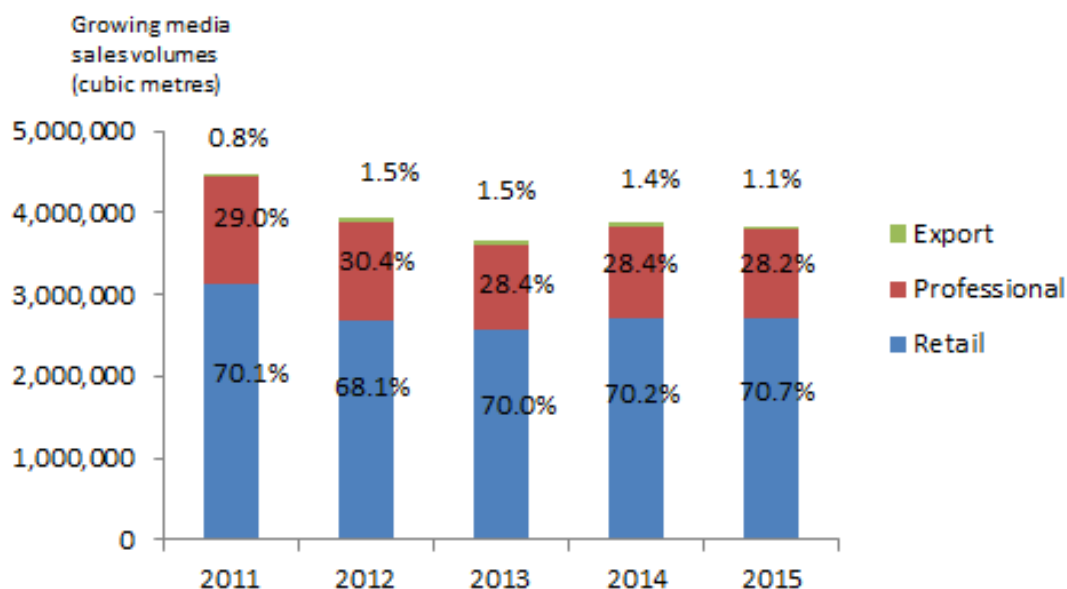


Figure 2. Proportion of volume of growing media which goes to retail, professional and export markets, 2011 to 2015²

Overview of growing media supplied into the retail market

As noted, the volume of growing media supplied into the UK retail remained flat in 2015 compared with 2014. Within this though, the ‘mix’ of ingredients used for all types of growing media product changed. As a proportion of volume supplied, the use of peat increased slightly for the second year in a row. The proportion of volume accounted for by peat increased from 49.6% to 51.1% to 52.9% between 2013, 2014 and 2015. This equates to 44,220 cubic metres more peat being used in growing media sold into the retail market in 2015 than in 2014.

The following charts show the change in volume (in cubic metres) of the different ingredients used in growing media destined for the retail market and the change in the proportion of total growing media supply accounted for by different ingredients.

² Note – figures do not total 100% in all cases due to rounding.

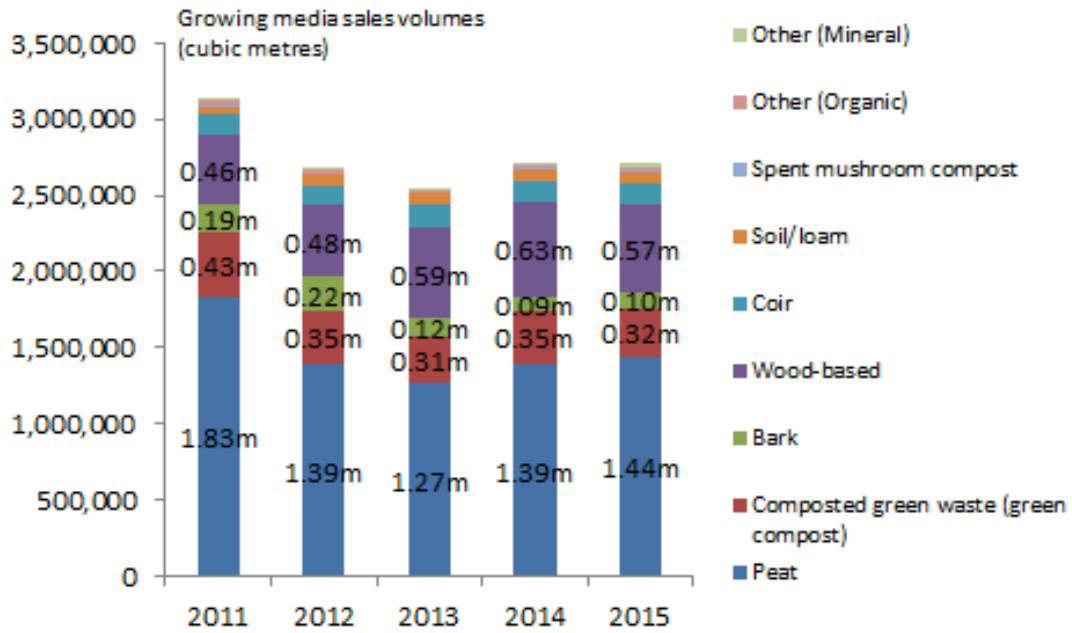


Figure 3. Volume in cubic metres of ingredients used in growing media supplied into the retail market, 2011 to 2015

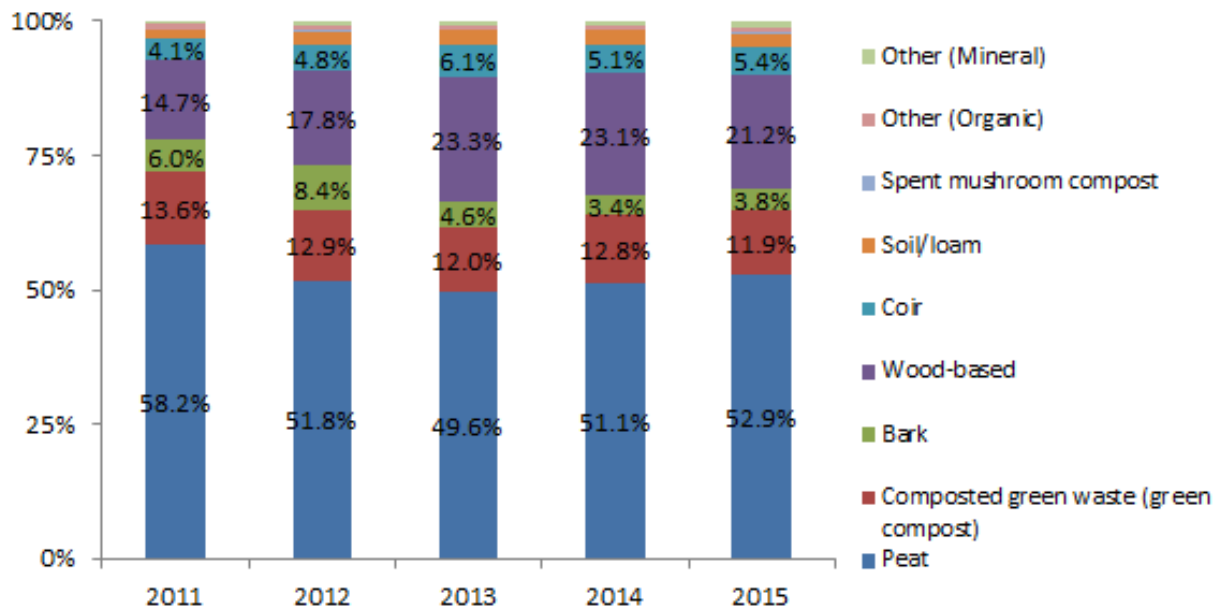


Figure 4. Proportion of ingredients used in total growing media supplied into the retail market, 2011 to 2015

In both absolute and proportional terms, peat use in growing media manufactured in the UK for the UK retail sector increased slightly in 2015. Bark remained at a low level compared with the early years of this study. The use of green compost fell again after a slight increase in 2014 following two previous years of decreases.

In terms of the different growing media products supplied for the UK retail market, the four years' data are now starting to show some patterns. Within growing media containing peat, multi-purpose growing media had from 2011 to 2014 consistently increased its share of overall volumes supplied into UK retail from 70% of volume to 79% of volume. However in 2015 the proportion of volume accounted for by multi-purpose growing media fell to accounting for 76% of volume in 2015, with the difference being made up mainly of specialist growing media such as ericaceous, sowing, potting, citrus, cactus and other growing media products.

Sales of retail peat-free growing media products have remained at similar levels expressed as a percentage of total growing media sales volume they account for since 2012. In 2015 peat-free growing media accounted for 9.0% of volume, compared to 8.3% in 2014 and 9.0% in 2013. However, this compares with a 2011 baseline of 5.9%. The proportion of volume accounted for by retail peat has consistently remained at less than 1% of volume supplied to the sector throughout the study.

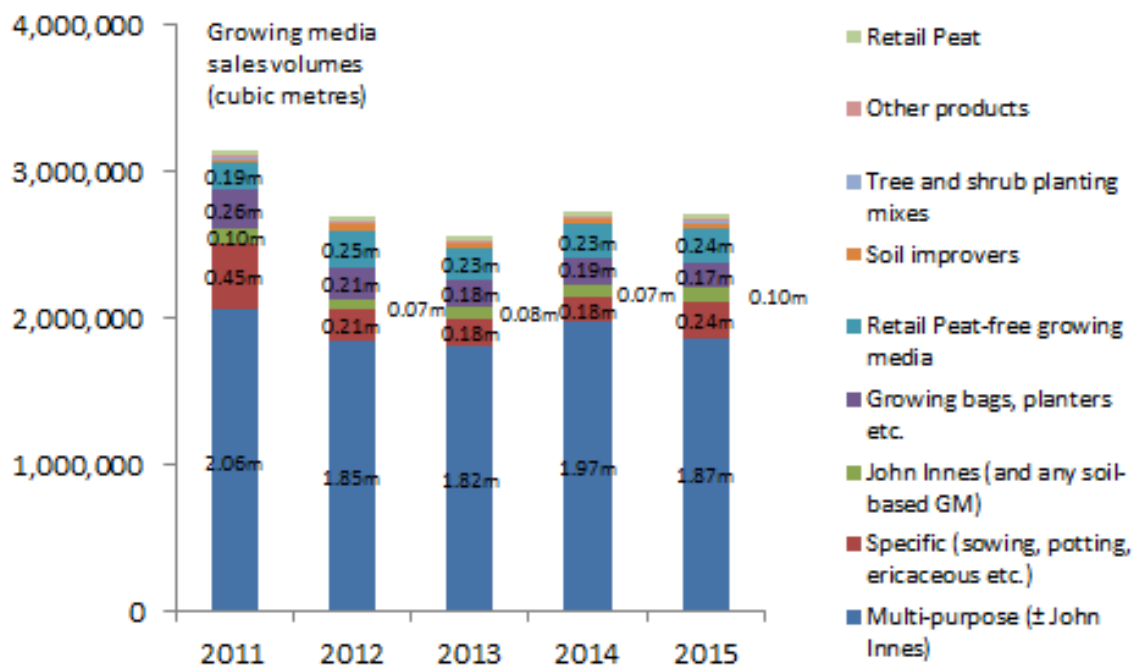


Figure 5. Volume of different growing media products supplied into the retail market, 2011 to 2015

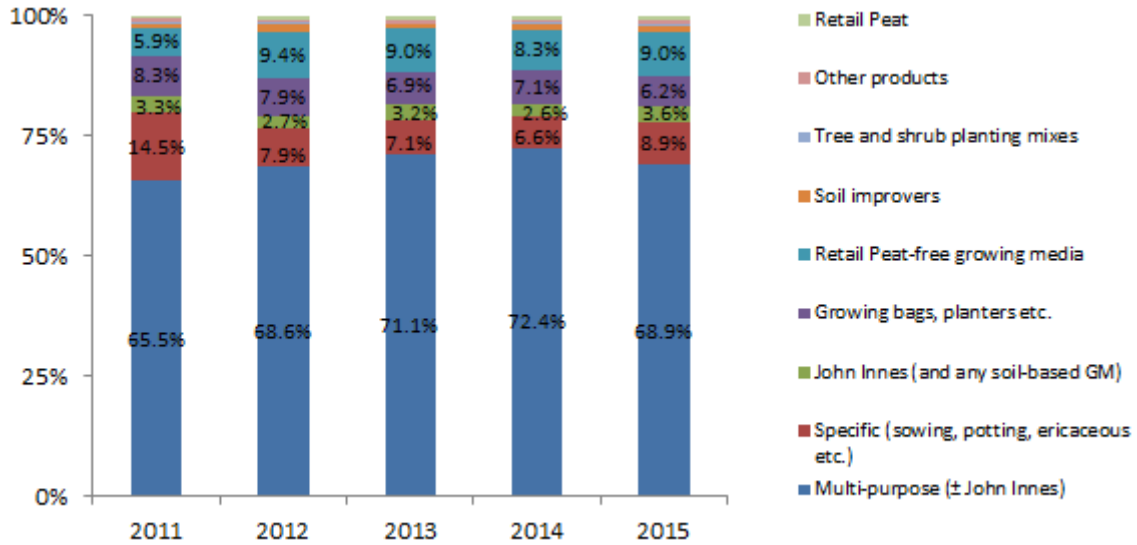


Figure 6. Proportion of overall volume supplied into the retail market accounted for by different types of growing media product, 2011 to 2015

Between 2011 and 2015 there has been a movement away from peat in growing media for amateur use, with a slight rebound in 2014 and 2015. The volume of product composed entirely of peat (e.g. peat bales) for retail has stayed roughly consistent at less than 1% of total volume supplied for retail.

Overview of growing media supplied into the professional market

The volume of growing media supplied into the professional use market fell in 2015 by 2% compared with 2014 (1.1 m cubic metres compared with 1.0 m cubic metres). Unlike the retail market, the proportion of growing media volume made up of by peat continued to fall in 2015, with wood-based materials and coir continuing to increase the proportion of volume they account for.

The following figures show the change in volume (in cubic metres) of the different ingredients used in growing media destined for the professional use market and the change in the proportion of total growing media supply accounted for by different ingredients.

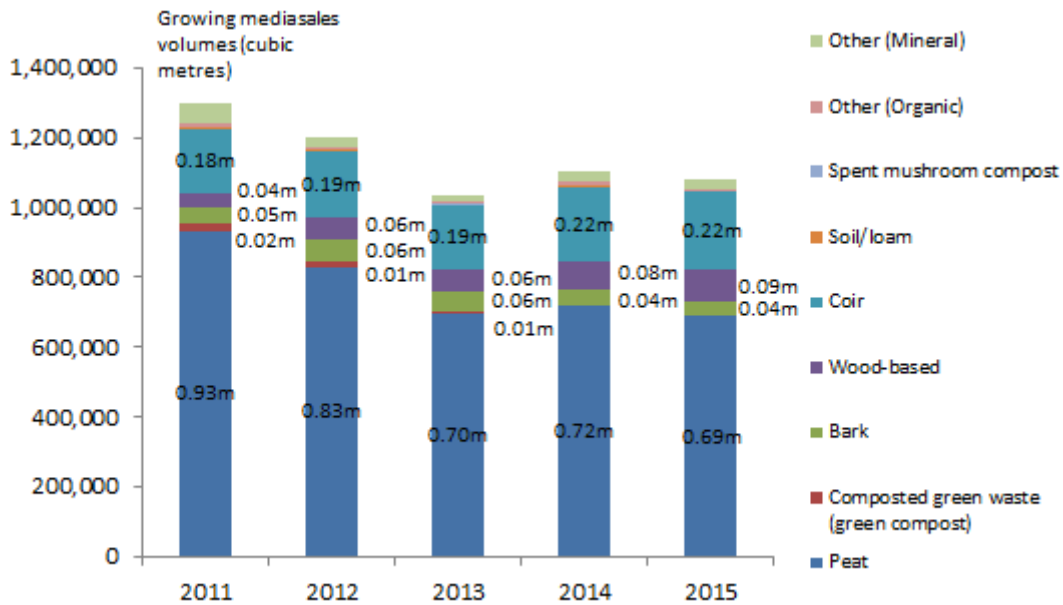


Figure 7. Volume in cubic metres of ingredients used in growing media supplied into the professional use market, 2011 to 2015

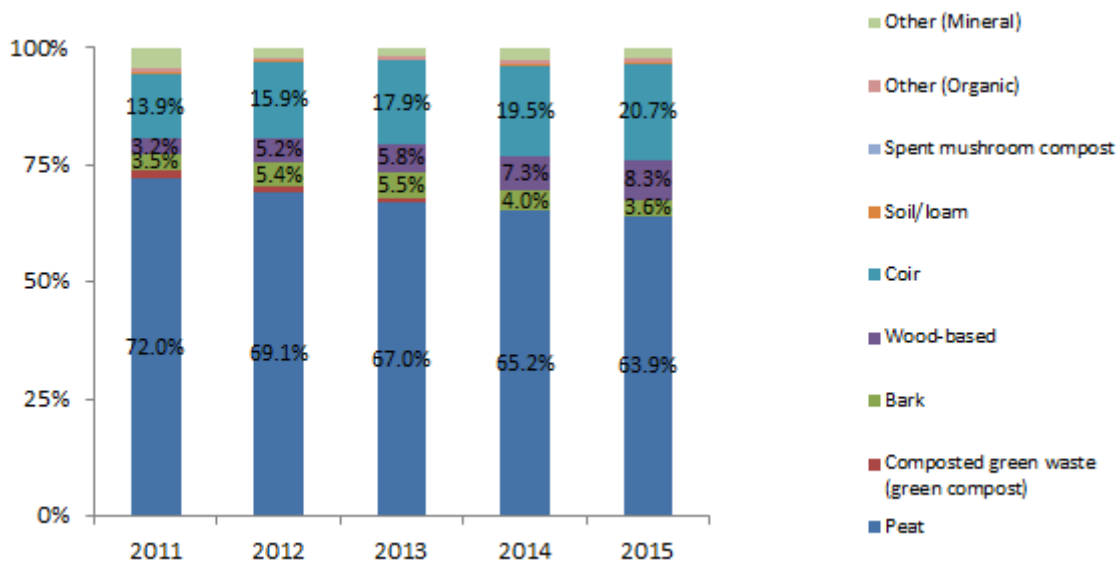


Figure 8. Proportion of ingredients used in total growing media supplied into the professional use market, 2011 to 2015

Peat use as a proportion of total volume fell and the absolute volume of peat used was the lowest recorded over the period of this study. The use of wood-based and coir ingredients has increased to replace peat volumes. This pattern is consistent with examples of demand among some retailers for plants produced in peat-free or peat-reduced growing media, for instance B&Q’s adoption of teabag-style ‘Easygrow’ technology and reduced-peat growing media. Coir now accounts for a much greater proportion of volume supplied into the professional use than into the retail market (20.7% compared with 5.4%). Indeed growing

media for professional use (compared with growing media for retail use) relies much more on peat and coir. With growing media supplied for professional use, 85% of volume is made up of peat and coir. The corresponding figure for growing media for the retail market is 58%.

The proportion of volume supplied accounted for by peat-free growing media has remained broadly constant over the four years of the study, fluctuating between 15% and 18%.

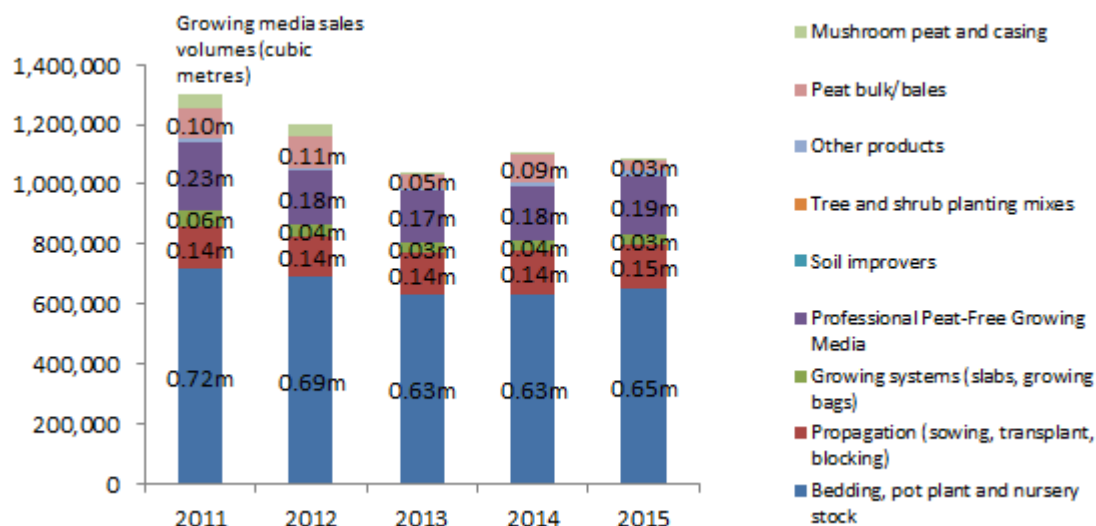


Figure 9. Volume of different growing media products supplied into the professional use market, 2011 to 2015

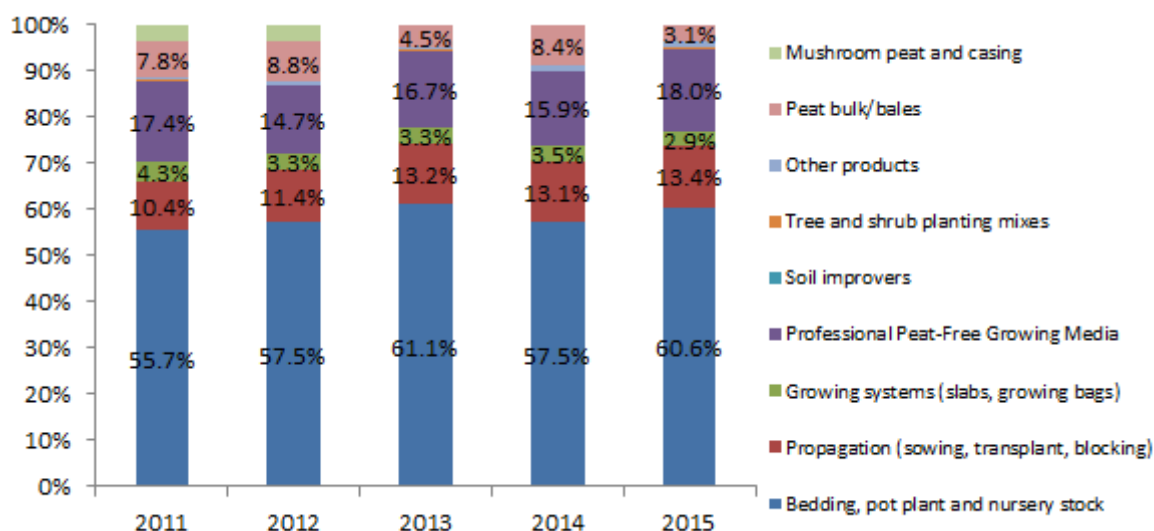


Figure 10. Proportion of overall volume supplied into the professional use market accounted for by different types of growing media product, 2011 to 2015

Growing media manufacturers were asked to provide separate volume figures for growing media used in the two categories of bedding and pot plant production and hardy nursery stock. Respondents did this based on the specific mixes supplied, which tend to have very different ingredients in terms of controlled release fertilisers and other components designed for these specific categories. From a manufacturer's point of view they are easily distinguishable. Defra statistics³ provided a similar split in the data around these two categories but based on a different methodology. In summary, the approach used was to take Defra crop production statistics (i.e. the numbers of plants of different types produced), and assume average volumes of growing media that would be required to produce these volumes (i.e. the volume of growing media used in production is proportionate to the volume of plants sold by growers).

The two methodologies for measuring the split in growing media types produce different, in fact almost opposite results from each other for the sectors in question. The Defra statistics consistently reported a greater volume of growing media used in nursery stock production than in bedding (a recent HDC funded study which examined import and export opportunities for UK growers also found that grower sales of hardy nursery stock exceeded those of bedding plants by value) and the data collection for this current study show a greater volume used in bedding and pot plant production. This has remained consistent through the study.

A definitive explanation of this dichotomy cannot be provided. However, the following relevant points need to be borne in mind: (1). the different wastage levels in the production and retail of bedding compared with hardy nursery stock (which will impact on the reported farm gate values relative to the actual number of plants produced in the first instance); (2). the different numbers of times plants are transplanted from one container into another during the production process and the relative amounts of growing media used at each stage (this is more important for hardy nursery stock than bedding plants) and finally (3). the import levels of different types of plant material at different stages in the supply chain (such plants will be recorded in terms of farmgate values but the growing media used in their production won't be recorded). A conclusive resolution of the apparently contradictory conclusions of the Defra study and this current project would be useful but would require a detailed study of the levels of use of different types of growing media by commercial growers of hardy nursery stock and bedding plants.

³ Defra report SP08019 - Availability and supply of alternative materials for use in growing media to meet the UKBAP target on reduced peat use in horticulture

Overview of peat sources for growing media (amateur, professional and export use)

The following chart shows that the bulk of peat used in the creation of growing media is sourced from the Republic of Ireland (ROI). Reliance on sources of peat from elsewhere in the EU other than the UK or ROI, has fallen over the past year.

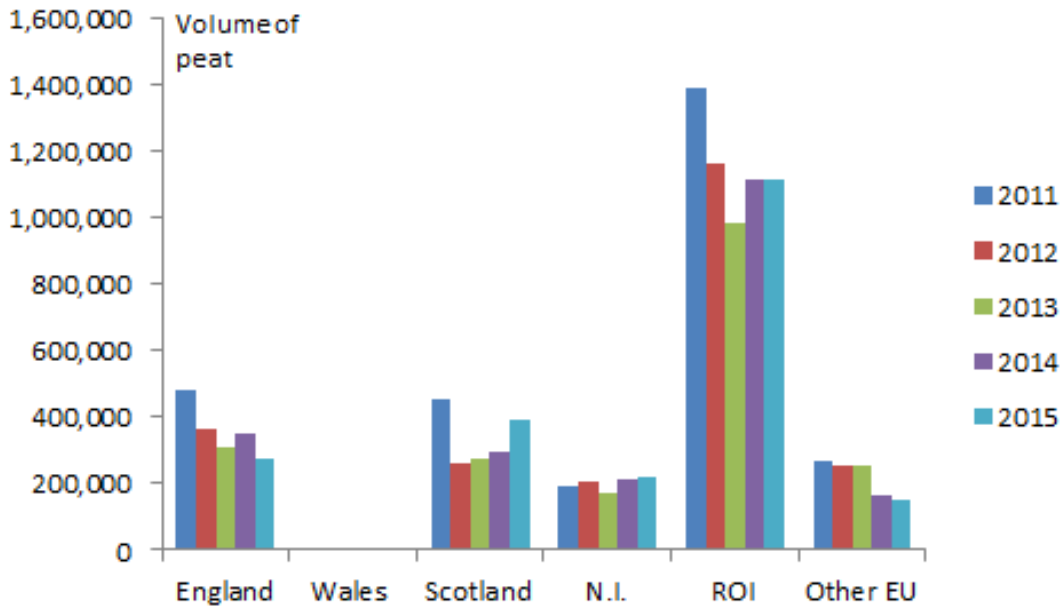


Figure 11. Volume of peat sourced from different countries for UK growing media sold 2011 to 2015

A fifth year of data has allowed us to start to plot the correlation between rainfall and the proportion of the subsequent year’s growing media volume which is accounted for by peat. The following chart shows the proportion of peat in overall volumes of growing media (red line) and the total amount of rainfall (mm in the UK) in the preceding year (blue) between May and September (inclusive) – i.e. the main peat harvesting months. The chart shows that in spite of a significantly drier May to September 2013 than in 2012, peat as a proportion of volume supplied did not substantially rebound. This suggests that the fall seen in the reliance on peat over the course of the project (and the uptake of other alternative materials) is not solely the result of wet weather impacting peat harvesting. Nor did peat use fall in 2015 on the back of a wetter (compared with 2013) 2014 peat harvest season.

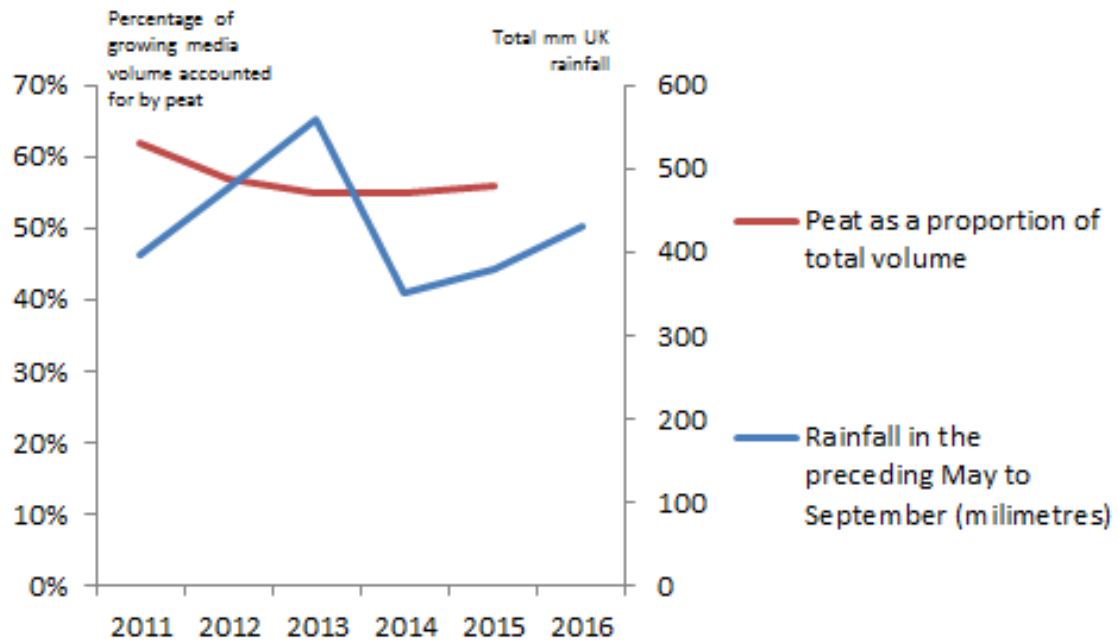


Figure 12. Correlation between peat as a proportion of growing media supplied with rainfall in May to September of the preceding year

Financial Benefits

The scope of this data gathering project does not include the provision of recommendations relating to cost reduction or financial return on investment. Such recommendations and analyses are being prepared in other work streams of the Growing Media Panel.

Action Points

Growers can use the information prepared in this report to monitor the overall use of peat and non-peat based growing media within the industry and benchmark their own business use of growing media against it.

SCIENCE SECTION

Introduction

This project is the latest stage in industry-wide efforts to monitor the use of responsibly sourced growing media in the UK. Since the early years of the last decade, Defra in partnership with growing media manufacturers has been monitoring the proportion of peat (and other bulky ingredients) used in growing media. Initially this work came from a focus on reducing peat content within growing media.

These earlier studies showed a steady fall in the proportion of peat used in growing media. Across the four sectors of the market (amateur gardening, local authority, landscaping, and professional growers) covered by the Defra studies, the proportion of volume accounted for by peat fell from 64% to 42% between 1999 and 2009.

Peat use in the local authority and landscaping sectors accounted for less than 1% of the total use. In the professional use sector, the proportion of volume accounted for by peat fell from 95% to 76% between 1999 and 2009. In the amateur gardening sector the proportion fell from 77% to 49% over the same ten year period.

More recently the debate has moved from a specific focus on peat reduction to the development and use of responsibly sourced growing media. To be able to evaluate this development, more detailed knowledge of the volume of growing media ingredients used by industry was required. This led to the development of the current project which collects data on specific growing media ingredients as well as peat. This work is sufficiently different from the original Defra studies to make comparisons of the two data sets qualitative only. However, the project will provide a robust mechanism for tracking the proportion not only of peat in growing media, but of other bulky components such as green compost, coir and bark.

Project aims

The project aims to measure the volume and composition of growing media supplied into the UK amateur and professional use markets, as well as for export from the UK. The aim is to track this each year from 2011 to 2015, with the potential for a one year extension into 2016. This annual report covers data collected covering the years 2011 to 2015.

Materials and Methods

Data collection method

At the outset of the project, Paul Waller Consulting (PWC), the HTA and Growing Media Association (GMA) compiled a list of 30 companies known to produce growing media for the UK market. These companies were to be surveyed by PWC using a template designed to differentiate the sales of different growing media products into various sectors of the market. The ingredients of these different products were recorded. Data was collected for each of the years 2011 to 2015 inclusive.

Of the 30 companies identified at the start of the project, four never provided a return as they only supply third parties, and two never responded to any of the surveys. A further two companies stopped trading over the course of the project: one through closure the other through acquisition. This latter business was acquired by another business in the study, and so its figures are included throughout. Businesses which respond to the surveys tended to do so either via sending back a detailed, fully completed return, or through a narrative response over the telephone. In a very small number of cases over the course of the study businesses requested that a previous year's figures be used as no significant changes had taken place. On the whole, fully completed returns account for close to 95% of reported volumes.

The 2015 survey was commissioned and jointly funded by AHDB Horticulture and the Growing Media Association (a specialist group of the HTA). An independent consultant (Paul Waller Consulting) was engaged to ensure the confidentiality of information collected. Data was provided by growing media producers on a confidential basis to ensure willingness to participate and to encourage honesty in the returns provided. A form showing each respondent's 'share' of different parts of the market was provided to encourage response.

Data validation

To assess the likelihood that the bulk of growing media supply has been accounted for, the total volume of growing media supplied for retail use has been cross referenced against market value estimates collected by the HTA in consumer surveys. These surveys are prone to potential error relating to accuracy of respondent recall, sampling error, variance in the timings of fieldwork relative to calendar years etc. However, they provide a useful check on the supply sales figures collected in this survey.

Kantar Media's Target Group Index (TGI) survey which captures consumer spend on growing media estimated an 11% fall in value for consumer spending on growing media between 2011 and 2012, with a further fall of 5% between 2012 and 2013. The primary research for this project reported a fall in volume of 14% for the retail market between 2011 and 2012 and a fall of 5% between 2012 and 2013, suggesting that the primary research for this project was highly likely to be valid in terms of reporting trends in the retail market for growing media. (Data is not available to perform a similar validation exercise for growing media for professional use). 2014 and 2015 show a slight variance between the two data sources. The TGI survey shows the value of consumer spending on media in 2014 as essentially flat when compared with 2013, whereas the survey of manufacturers shows volumes supplied to retail up by 7% in 2014. In 2015 the reported volume of growing media supplied was flat, however Kantar Media data shows the value of growing media sales to be up by 14%.

By comparison the HTA's Garden Retail Monitor which tracks the detailed sales of 25 garden centres shows that growing media sales in 2014 were up by 7% on 2013. In 2015 they were up by 6% on 2014. The three data sources are all showing increases in volume/value from 2013 to 2015, but with differences in the extent and timings of the increase. This is not necessarily a cause for concern, since each measure is subject to different statistical margins of error, and is measuring different things (e.g. volume versus value; garden centre only versus all retail channels, etc). However in any future years of the study it will be important to continue to monitor any divergence between these sources to ensure all measures are directionally consistent.

By cross referencing market value estimates from Kantar Media's TGI survey, an evaluation as to whether this project's methodology is likely to be providing a roughly sensible view of the growing media market can be made. Table 1 shows how the retail price of the 'statistically typical 50 litre bag' of growing media can be estimated by cross referencing the production volume figures collected as part of this project with market value estimates from the TGI survey. An important point to note here is that the price we arrive at is for a *statistically typical* 50 litre bag of growing media, not for (for instance) the typical 50 litre bag of growing media one might see for sale. Such a statistically typical 50 litre bag would in theory contain around 4.15 litres (8.3%) of peat-free media, around 36.2 (72.4%) litres of multi-purpose media, and so forth. These different types of growing media all have varying retail price points per litre. For instance a 50 litre bag of multi-purpose media may be around £5 to £6 per bag (e.g. 10p to 12p per litre), but citrus, orchid or cactus media may be sold in 20 litre packs at around £4 per bag (e.g. 20p per litre). Given that multi-purpose media is usually the lowest price per litre retail product, we should expect that the price of the statistically typical 50 litre bag of

growing media will exceed the retail price of the typical 50 litre bag of multi-purpose growing media (e.g. because it incorporates the higher prices per litre of other types of growing media such as specialist growing media, John Innes, peat-free mixes, etc). A systematic study of average price points per litre of different products taking account of different retail channels' pricing and discounting, variations driven by bag size, etc is beyond the scope of this project, therefore the data should be taken only as a check for a broadly sensible figure. Visits to garden centres and DIY stores to check the prices of different growing media were undertaken as part of the validation work. However, this was not a scientific survey and was done only as an additional check by the report author and as such is not included in this report.

Table 1. Estimated notional value of a statistically typical 50 litre bag of growing media for retail use based on available volume and value estimates

Year	Retail growing media supply volume ('000 cubic metres)	Growing media market value	Price per cubic metre	Notional retail price per statistically typical 50 litre bag
2011	3,138	£461m	£147	£7.35
2012	2,689	£415m	£154	£7.72
2013	2,555	£395m	£155	£7.75
2014	2,722	£390m	£143	£7.17 ⁴
2015	2,714	£446m	£165	£8.22

Given that the value figures are based on consumers' reported spend, these should be seen as inclusive of VAT. The resulting figures of £7.35, £7.72, £7.75, £7.17 and £8.22 are broadly consistent with what we might expect, and as such provide confidence that the volume figures collected in this survey are both credible, and account for the bulk of UK production.

Results

Overall sales trends 2011 to 2015

UK growing media supply for domestic use or export fell by 1% in volume overall in 2015 compared with 2014. In volume terms this equates to a fall from 3.88 m cubic metres to 3.84 m cubic metres. In terms of growing media supplied for retail (amateur use), volumes were essentially unchanged (2.72 m cubic metres to 2.71 m cubic metres). For professional use the equivalent figures are a 2% decrease, with volumes falling from 1.10 m cubic metres in 2014 to 1.08 m cubic metres in 2015. Production for export accounts for a very small proportion of overall supply (1.1% in 2015).

⁴ NB – as noted in the text there is some likelihood that the TGI survey is underestimating the market value for media in 2014. Applying a 7% growth figure to the 2013 reported consumer spend equates to a consumer growing media spend of £423m. Applying the same analysis to this base figure gives a price per 50 litre bag of £7.78

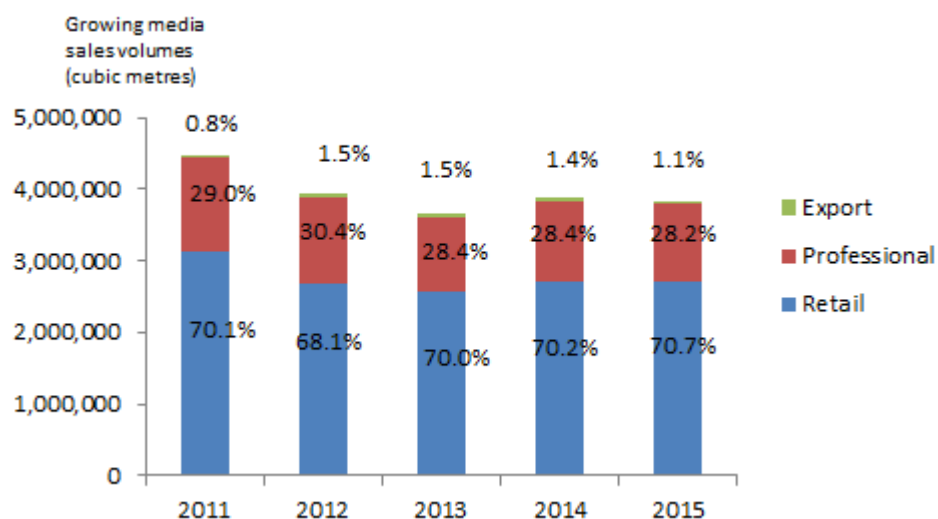


Figure 13. Proportion of volume of growing media which goes to retail, professional and export markets, 2011 to 2015⁵

Table 2. Volume of growing media supply which goes to retail, professional and export markets, 2011 to 2015 ('000 cubic metres)

Year	Total supply volume	For export	For professional use market	For amateur use/retail market
2011	4,472	36	1,298	3,138
2012	3,949	59	1,201	2,689
2013	3,647	55	1,037	2,555
2014	3,876	53	1,102	2,722
2015	3,838	44	1,081	2,714

Overview of growing media supplied into the retail market

As noted, the volume of growing media supplied into the UK retail remained flat in 2015 compared with 2014. Within this though, the 'mix' of ingredients used for all types of growing media product changed. As a proportion of volume supplied, the use of peat increased slightly for the second year in a row. The proportion of volume accounted for by peat increased from 49.6% to 51.1% to 52.9% between 2013, 2014 and 2015. This equates to 44,220 cubic metres more peat being used in growing media sold into the retail market in 2015 than in 2014..

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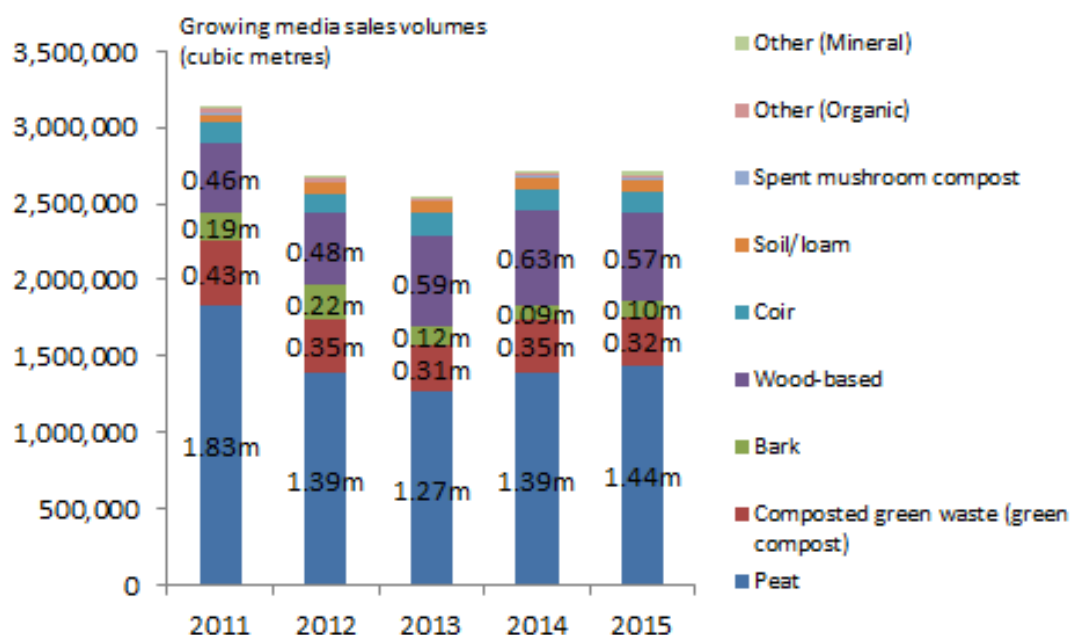


Figure 14. Volume in cubic metres of ingredients used in growing media supplied into the retail market, 2011 to 2015

Table 3. Volume in cubic metres of ingredients used in growing media supplied into the retail market, 2011 to 2015

Ingredient	2011	2012	2013	2014	2015
Peat	1,826,291	1,392,165	1,267,522	1,391,865	1,436,085
Green compost	428,150	346,334	305,391	348,497	323,085
Bark	189,273	224,866	117,981	93,429	104,198
Wood-based	460,960	478,369	594,752	627,404	574,381
Coir	128,551	128,479	156,514	137,656	146,569
Soil/loam	47,340	63,504	68,258	73,790	64,599
Spent mushroom compost	7,689	7,002	3,648	7,882	13,195
Other (organic)	31,157	26,793	21,045	16,781	17,069
Other (mineral)	18,688	21,139	19,755	24,328	34,499

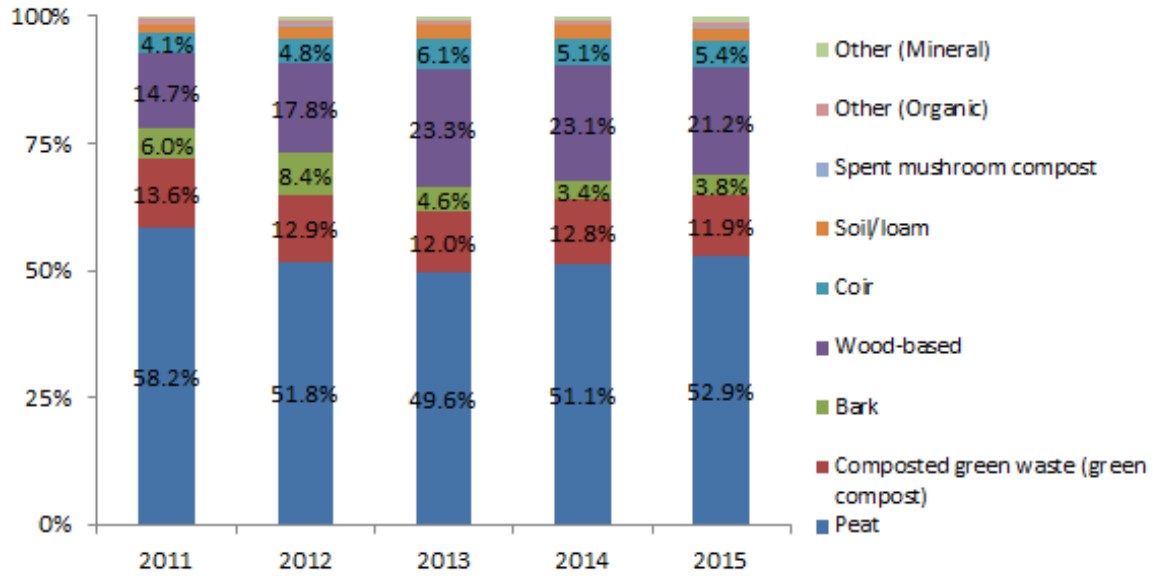


Figure 15. Proportion of ingredients used in total growing media supplied into the retail market, 2011 to 2015

In both absolute and proportional terms, peat use in growing media manufactured in the UK for the UK retail sector increased slightly in 2015. Bark remained at a low level compared with the early years of this study. The use of green compost fell again after a slight increase in 2014 following two previous years of decreases.

In terms of the different growing media products supplied for the UK retail market, the four years' data are now starting to show some patterns. Within growing media containing peat, multi-purpose growing media had from 2011 to 2014 consistently increased its share of overall volumes supplied into UK retail from 70% of volume to 79% of volume. However in 2015 the proportion of volume accounted for by multi-purpose growing media fell to accounting for 76% of volume in 2015, with the difference being made up mainly of specialist growing media such as ericaceous, sowing, potting, citrus, cactus and other growing media products.

Sales of retail peat-free growing media products have remained at similar levels expressed as a percentage of total growing media sales volume they account for since 2012. In 2015 peat-free growing media accounted for 9.0% of volume, compared to 8.3% in 2014 and 9.0% in 2013. However, this compares with a 2011 baseline of 5.9%. The proportion of volume accounted for by retail peat has consistently remained at less than 1% of volume supplied to the sector throughout the study.

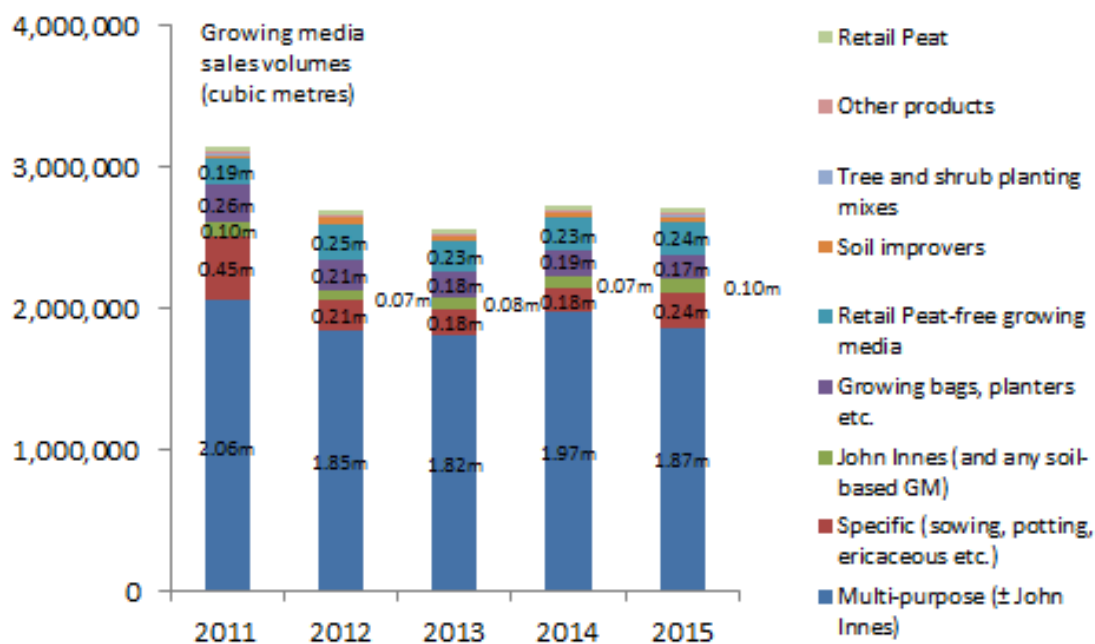


Figure 16. Volume of different growing media products supplied into the retail market, 2011 to 2015

Table 4. Volume in cubic metres of different growing media products supplied into the retail market, 2011 to 2015

Growing media product type	2011	2012	2013	2014	2015
Multi-purpose (± John Innes)	2,055,883	1,845,020	1,816,975	1,971,814	1,868,700
Specific (sowing, potting, ericaceous etc.)	454,656	213,000	181,298	180,496	241,234
John Innes (and any soil-based growing media)	103,751	71,783	81,147	69,515	97,573
Growing bags, planters etc.	261,233	212,747	176,245	194,444	168,381
Retail peat-free growing media	186,279	251,847	230,529	225,077	244,564
Soil improvers	20,532	46,742	19,216	30,121	31,908
Tree and shrub planting mixes	8,420	7,978	9,654	12,059	9,921
Other products	26,359	15,689	15,865	17,721	23,533
Retail peat (sold as 'peat')	20,984	23,845	23,937	20,385	27,866

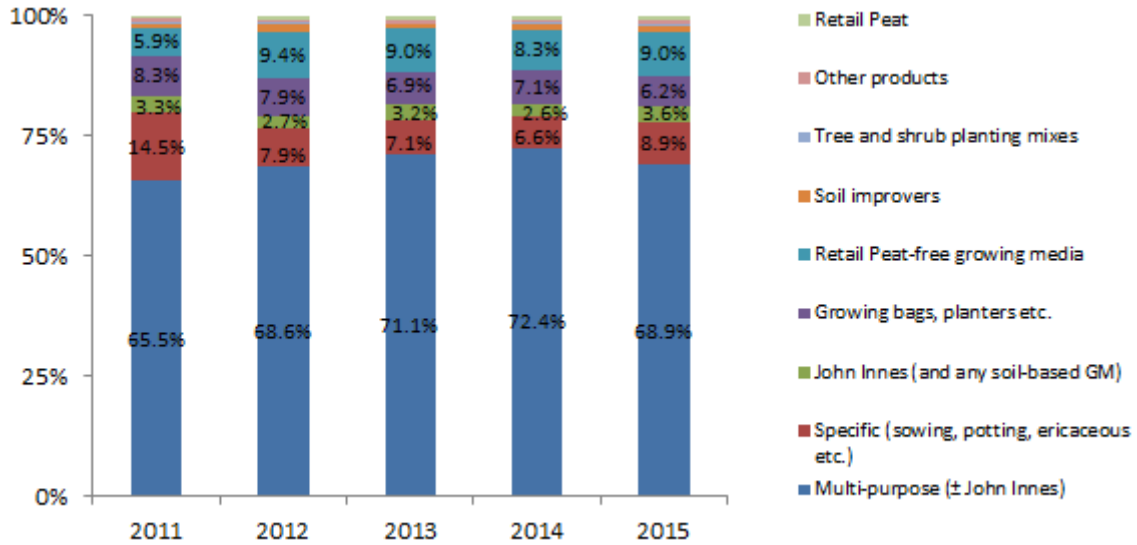


Figure 17. Proportion of overall volume supplied into the retail market accounted for by different types of growing media product, 2011 to 2015

Between 2011 and 2015 there has been a movement away from peat in growing media for amateur use, with a slight rebound in 2014 and 2015. The volume of product composed entirely of peat (e.g. peat bales) for retail has stayed roughly consistent at less than 1% of total volume supplied for retail.

Overview of growing media supplied into the professional market

The volume of growing media supplied into the professional use market fell in 2015 by 2% compared with 2014 (1.1 m cubic metres compared with 1.0 m cubic metres). Unlike the retail market, the proportion of growing media volume made up of by peat continued to fall in 2015, with wood-based materials and coir continuing to increase the proportion of volume they account for.

The following charts show the change in volume (in cubic metres) of the different ingredients used in growing media destined for the professional use market and the change in the proportion of total growing media supply accounted for by different ingredients.

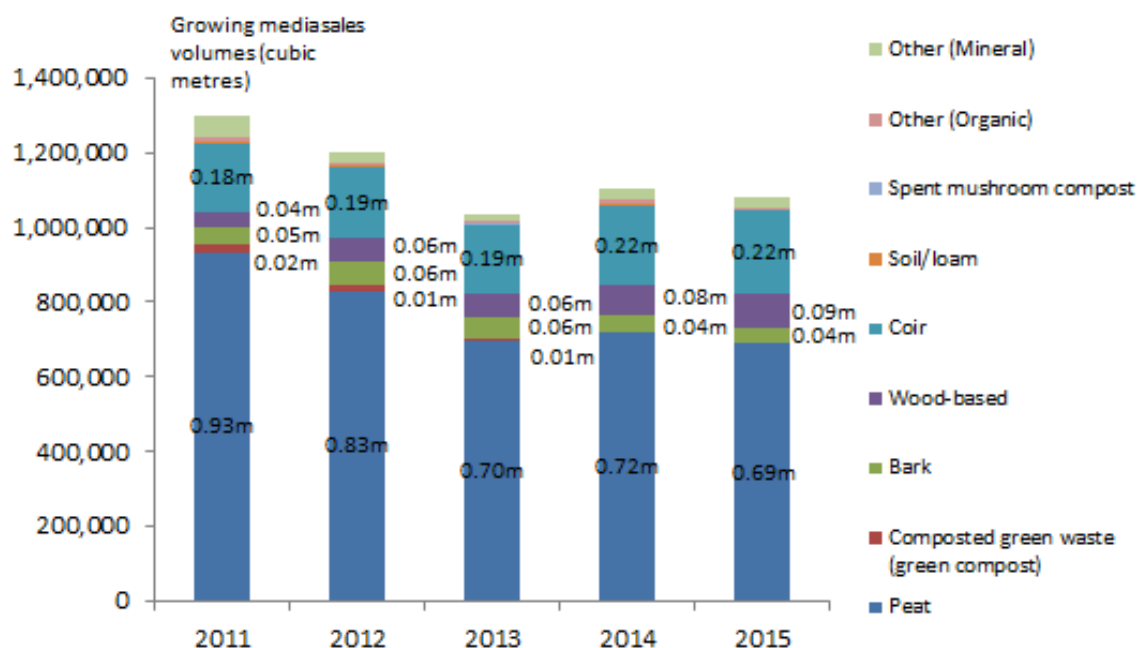


Figure 18. Volume in cubic metres of ingredients used in growing media supplied into the professional use market, 2011 to 2015

Table 5. Volume in cubic metres of ingredients used in growing media supplied into the professional market, 2011 to 2015

Ingredient	2011	2012	2013	2014	2015
Peat	934,363	830,179	695,239	717,992	690,394
Green compost	22,235	12,934	9,661	1,298	1,130
Bark	45,253	64,531	57,242	44,538	38,624
Wood-based	41,632	62,882	59,879	80,980	90,084
Coir	180,246	191,496	185,569	215,263	223,590
Soil/loam	6,796	4,144	1,583	1,354	1,865
Spent mushroom compost	38	0	320	3,200	3,200
Other (organic)	12,281	8,910	8,637	8,978	6,077
Other (mineral)	54,827	26,106	19,206	28,204	25,816

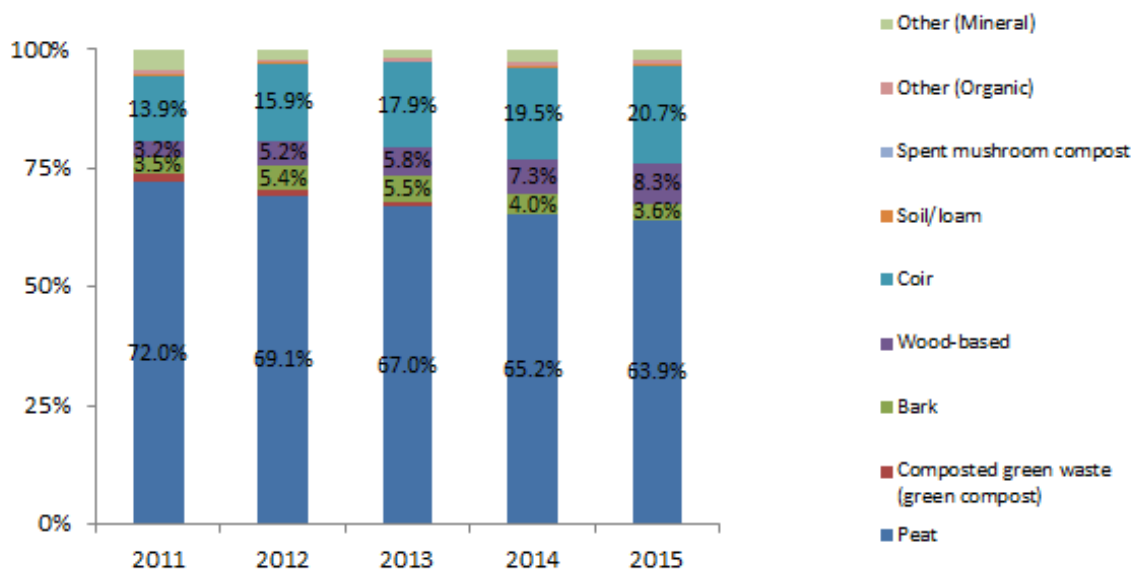


Figure 19. Proportion of ingredients used in total growing media supplied into the professional use market, 2011 to 2015

Peat use as a proportion of total volume fell and the absolute volume of peat used was the lowest recorded over the period of this study. The use of wood-based and coir ingredients has increased to replace peat volumes. This pattern is consistent with examples of demand among some retailers for plants produced in peat-free or peat-reduced growing media, for instance B&Q’s adoption of teabag-style ‘Easygrow’ technology and reduced-peat growing media. Coir now accounts for a much greater proportion of volume supplied into the professional use than into the retail market (20.7% compared with 5.4%). Indeed growing media for professional use (compared with growing media for retail use) relies much more on peat and coir. With growing media supplied for professional use, 85% of volume is made up of peat and coir. The corresponding figure for growing media for the retail market is 58%.

The proportion of volume supplied accounted for by peat-free growing media has remained broadly constant over the four years of the study, fluctuating between 15% and 18%.

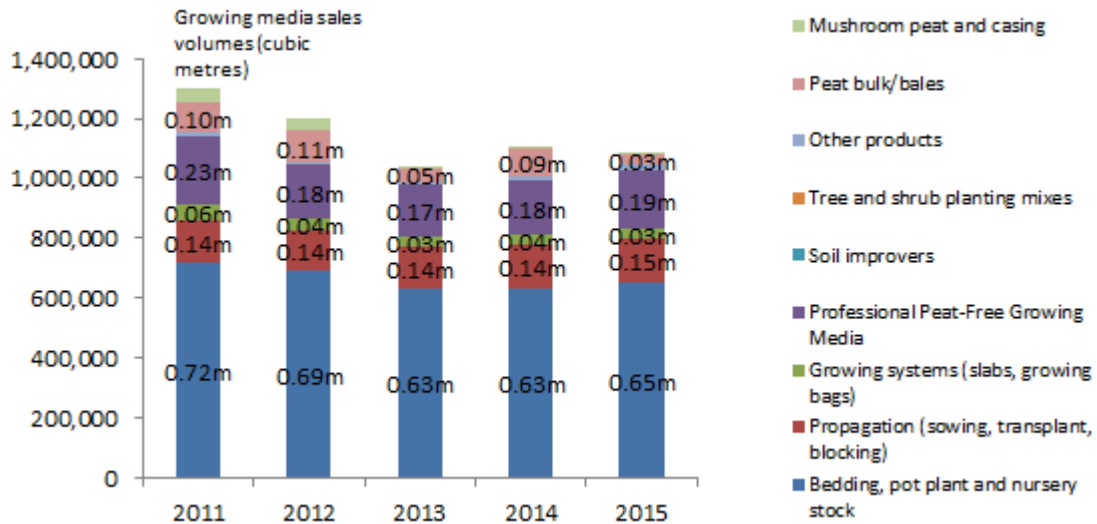


Figure 20. Volume of different growing media products supplied into the professional use market, 2011 to 2015

Table 6. Volume in cubic metres of ingredients used in growing media supplied into the professional use market, 2011 to 2015

Product type	2011	2012	2013	2014	2015
Nursery stock, bedding and pot plant	722,168	690,128	633,442	633,194	654,458
Propagation (sowing, transplant, blocking)	135,270	136,723	137,442	143,993	145,105
Growing systems (slabs, growing bags)	56,227	39,942	34,343	38,252	31,879
Professional peat-free growing media	226,031	176,931	173,562	175,688	194,090
Soil improvers	0	0	320	246	207
Tree and shrub planting mixes	2,727	1,986	1,478	983	796
Other products	8,024	5,855	6,902	13,645	17,266
Peat bulk/bales	101,448	105,658	46,816	92,606	33,779
Mushroom peat and casing	45,778	43,959	3,031	3,200	3,200

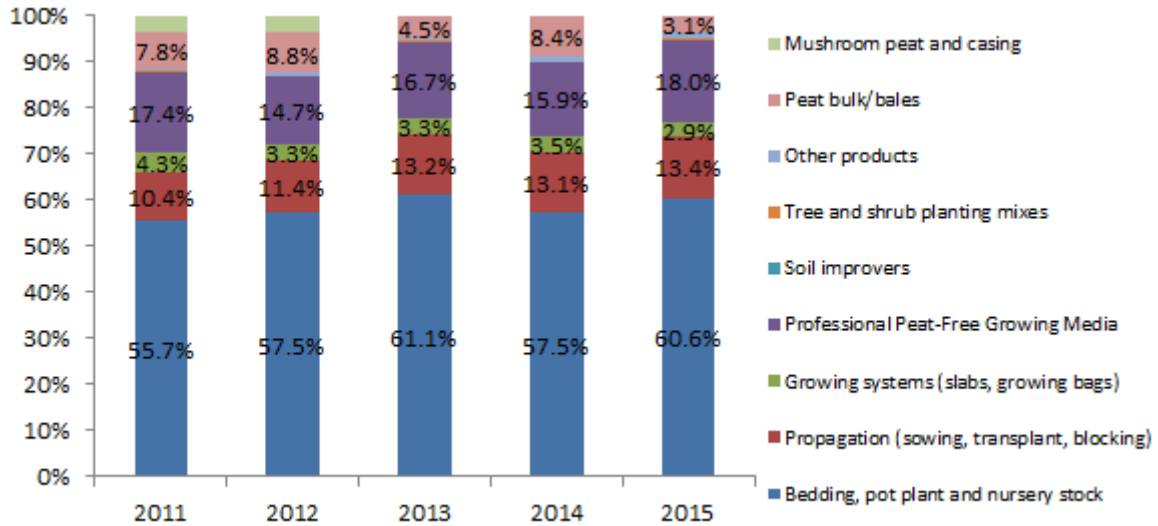


Figure 21. Proportion of overall volume supplied into the professional use market accounted for by different types of growing media product, 2011 to 2015

Growing media manufacturers were asked to provide separate volume figures for growing media used in the two categories of bedding and pot plant production and hardy nursery stock. Respondents did this based on the specific mixes supplied, which tend to have very different ingredients in terms of controlled release fertilisers and other components designed for these specific categories. From a manufacturer's point of view they are easily distinguishable. Defra statistics⁶ provided a similar split in the data around these two categories but based on a different methodology. In summary, the approach used was to take Defra crop production statistics (i.e. the numbers of plants of different types produced), and assume average volumes of growing media that would be required to produce these volumes (i.e. the volume of growing media used in production is proportionate to the volume of plants sold by growers).

The two methodologies for measuring the split in growing media types produce different, in fact almost opposite results from each other for the sectors in question. The Defra statistics consistently reported a greater volume of growing media used in nursery stock production than in bedding (a recent HDC funded study which examined import and export opportunities for UK growers also found that grower sales of hardy nursery stock exceeded those of bedding plants by value) and the data collection for this current study show a greater volume used in bedding and pot plant production. This has remained consistent through the study.

⁶ Defra report SP08019 - Availability and supply of alternative materials for use in growing media to meet the UKBAP target on reduced peat use in horticulture

A definitive explanation of this dichotomy cannot be provided. However, the following relevant points need to be borne in mind: (1). the different wastage levels in the production and retail of bedding compared with hardy nursery stock (which will impact on the reported farm gate values relative to the actual number of plants produced in the first instance); (2). the different numbers of times plants are transplanted from one container into another during the production process and the relative amounts of growing media used at each stage (this is more important for hardy nursery stock than bedding plants) and finally (3). the import levels of different types of plant material at different stages in the supply chain (such plants will be recorded in terms of farmgate values but the growing media used in their production won't be recorded). A conclusive resolution of the apparently contradictory conclusions of the Defra study and this current project would be useful but would require a detailed study of the levels of use of different types of growing media by commercial growers of hardy nursery stock and bedding plants.

Overview of peat sources for growing media (amateur, professional and export use)

The following chart shows that the bulk of peat used in the creation of growing media is sourced from the Republic of Ireland (ROI). Reliance on sources of peat from elsewhere in the EU other than the UK or ROI, has fallen over the past year.

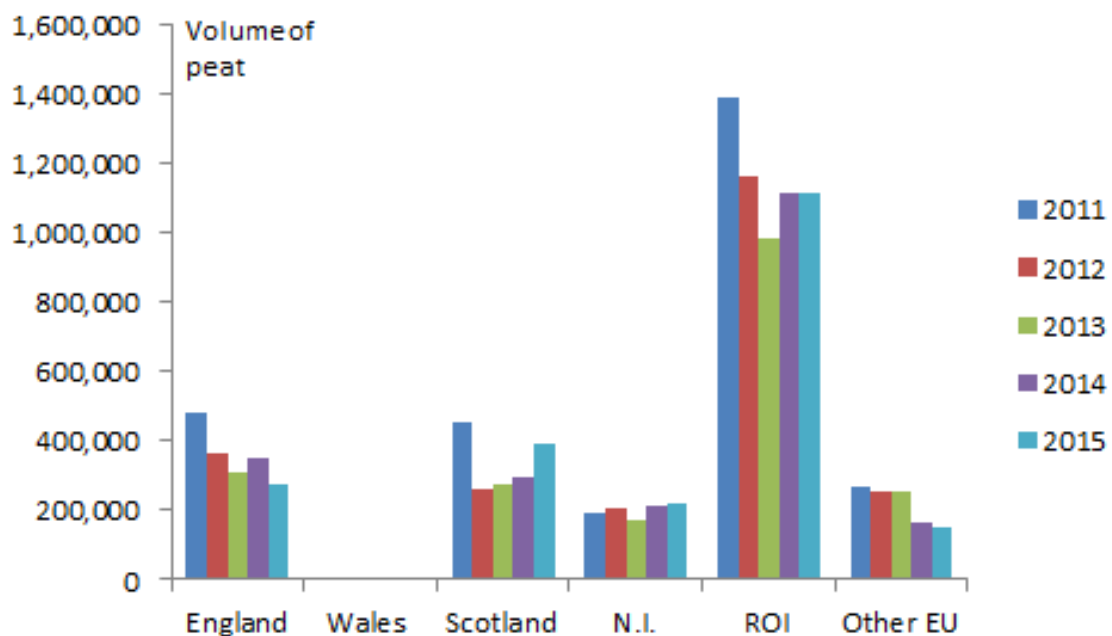


Figure 22. Volume of peat sourced from different countries for UK growing media sold 2011 to 2015

A fifth year of data has allowed us to start to plot the correlation between rainfall and the proportion of the subsequent year's growing media volume which is accounted for by peat. The following chart shows the proportion of peat in overall volumes of growing media (red line) and the total amount of rainfall (mm in the UK) in the preceding year (blue) between May and September (inclusive) – i.e. the main peat harvesting months. The chart shows that in spite of a significantly drier May to September 2013 than in 2012, peat as a proportion of volume supplied did not substantially rebound. This suggests that the fall seen in the reliance on peat over the course of the project (and the uptake of other alternative materials) is not solely the result of wet weather impacting peat harvesting. Nor did peat use fall in 2015 on the back of a wetter (compared with 2013) 2014 peat harvest season.

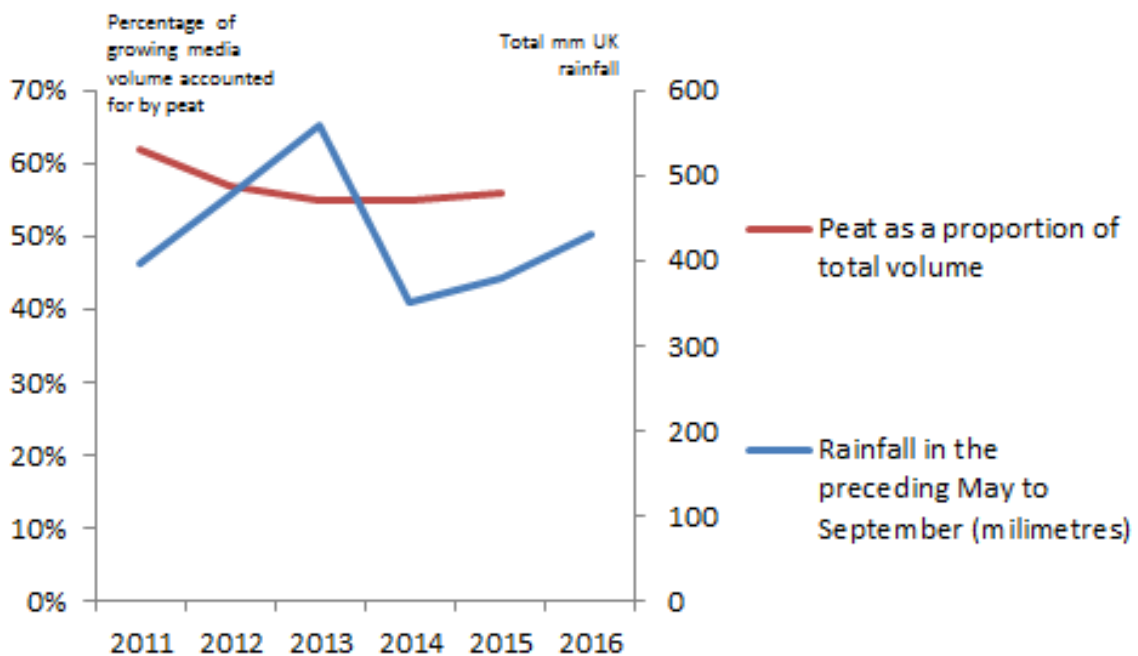


Figure 23. Correlation between peat as a proportion of growing media supplied with rainfall in May to September of the preceding year

Discussion

These findings show that over the course of the project there have been movements in the overall volume of growing media supplied, and changes in the proportion of ingredients. Overall, peat use is on a downward trend across the four years of the project in terms of the percentage of volume sold it accounts for. Even with favourable weather conditions for a good peat harvest in 2013 and 2014, subsequent peat use in 2014 and 2015 did not substantially increase in terms of the overall percentage of volume sold it accounts for. Indeed, in the professional sector, the proportion of peat in the total volume supplied continued to fall.

Within the retail market, peat use did increase in 2014 and 2015 compared with 2013 both in absolute and percentage terms. However, in 2015 both the amount of peat used and the proportion of total volume supplied was less than in 2011. It is notable that in 2015 the volume accounted for by multi-purpose growing media fell for the first time in the study, with much of its 'share' being taken by specialist growing media such as ericaceous, sowing and other specialist mixes. Given the relatively large proportion of specialist growing media which is accounted for by ericaceous product with its high acidity levels, it may be that this is a factor in the increased percentage of volume accounted for by peat in 2015.

The Sustainable Growing Media Task Force project 4 work package is providing a methodology to assess the bulk material ingredients used in the production of a growing medium to provide an indication of how responsibly sourced such materials are, which should enable an assessment of the overall sustainability of growing media to be assessed.

Conclusions

Growing media supply volumes fell from 2011 to 2013 most likely due to poor weather conditions limiting consumer demand, and then rebounded in 2014 and 2015. An extremely wet April to July period in 2012 and an extremely cold March to April 2013 hit consumer spending on ornamental plants and associated products such as growing media, whereas favourable weather conditions for gardening between April and June 2014 led to an increase in garden product and plant sales compared with the previous two years. As such, the volume of growing media supplied for retail, professional and export markets fell in 2012 and 2013 compared with 2011, and then increased again in 2014 and 2015

In the case of the retail market, the proportion of peat used across the five years of the project fell, with wood-based and coir ingredients taking the place of this volume. However, the proportion accounted for by peat has risen slightly since 2013. The proportion of the total supplied into the retail market accounted for by peat-free growing media increased between 2011 and 2015 from around 6% to 9%. The wet weather experienced in 2011 and 2012 impacted on the peat harvest in these years reducing the amount available for use in growing media products the following year, necessitating the use of other raw materials (such as wood-based ingredients), which may have had some effect on the patterns of supply and demand for peat-free growing media. However, the good weather conditions for peat harvesting in 2013 and 2014 appear not to have a good correlation with any rebound in the proportion of growing media volume accounted for by peat in 2014 and 2015.

In the case of growing media supplied for professional use, the proportion of the volume accounted for by peat has fallen in each year of the project irrespective of changing weather and its impact on the cost/availability of peat. This suggests that for the professional sector the move towards peat reduction is occurring as a result of multiple factors. Naturally this is likely to include the price and availability of different ingredients, but the trend is also likely to be influenced by demand for plants grown in peat-reduced growing media from retailers, as well as product innovation among growing media manufacturers to improve the quality of product and reduce reliance on peat.

Knowledge and Technology Transfer

This report is publicly available on the AHDB Horticulture website, and is available to members of the Sustainable Growing Media Task Force.

Appendices

Appendix 1 to this document contains the data tables for 2011 to 2015 detailing the volume of material produced for different sectors of the retail and professional markets in the UK or for export. The source country of any peat used in these products is also detailed. The appendix is in the form of an Excel spreadsheet.

Appendix 2 to this document is a summary chart (see below) which show trends in the relative value of garden centre sales of compost from 2011 to 2015 (inclusive). The source is the HTA's Garden Retail Monitor which collects garden centre sales data for benchmarking purposes. It illustrates the relative levels of consumer spending over the period of the study which are referenced in this document. Monetary values are not published in the chart. This

is because the data behind the charts relate only to the sample of submitting garden centres and are not 'grossed up' to describe the market as a whole due to small sample sizes. Instead an 'index' showing values relative to 2011 is provided, where a value of 105 (for instance) would indicate a value of 105% of the 2011 baseline.

The chart shows the relative value of garden centres' sales of compost (the term 'compost' as opposed to 'growing media is specifically used). It is based on a very small sample of 13 garden centres, and should therefore be treated as qualitative in nature only. Alongside it is plotted data for trends in the volume of growing media sold to retail customers measured by this study (see Table 2). Taken together, the charts show consumer demand for garden products falling after 2011 in line with inclement weather, and recovering towards the end of 2014. We should note that the measures are different – volume versus value. As monetary inflation takes effect over time, we would expect the value of reported sales to increase faster than the volume metric.

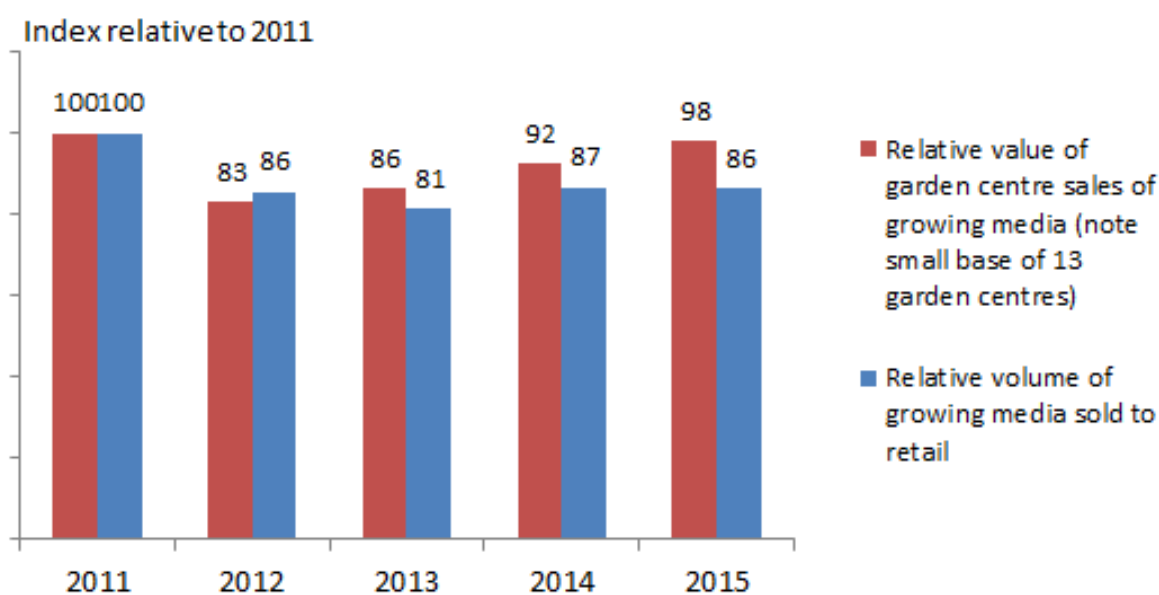


Figure 24. Relative value (£) of garden centre sales of growing media 2011 to 2014, plotted alongside the relative volume of growing media supplied to the retail channel by growing media producers.