

Notes for the Working group – on peat replacement in Horticulture:

Notes based on a presentation by Neil Bragg – Chair of the UK GMA
Date: Friday 6th August 2021.

Current UK situation:

The Conservative Government in the UK have a manifesto commitment that by the time of the next scheduled general election – March 2024 – peat use in at least the Hobby horticultural market will have ceased in England. The other devolved powers are looking at this but have not made full commitment to a similar target date.

Defra on behalf of the Government are looking at how the removal of peat from the hobby sector in England can be achieved and the impact of such a move. Defra are currently planning a consultation with all stakeholders starting this autumn. There are three current themes in the consultation:

- 1) Mandatory collection of data from all retailers
- 2) A tax on all products containing peat- based on percentage inclusion
- 3) A ban on peat use in England in the Hobby market.

The UK horticultural industry has for the last 10 years been developing a Responsible Sourcing Scheme for examining all substrate components against a set of criteria- this project was started by Dr Alan Knight back in 2011 and is now as a multi-stakeholder scheme ready for use by the industry. All components are scored against the same set of criteria and then the evidence and score are third party audited. The scheme has a set of bandings E-A for the materials and products thereof. More details of the scheme – the guide notes and the actual calculator can be downloaded from the GMA UK website, hosted by the HTA. The output of the scheme can then be used to label products so that all end users can see where the products sit and hence make informed choices over the purchase of products. The badging will start to appear from Jan 2022 onwards on products- 90% of manufacturers are signed up to the scheme and retailers and Growers are fully supportive.

Note here that the word ‘responsible’ was used for the scheme rather than ‘sustainable’ as Alan Knight pointed out at the outset that overall whilst the GM components might be assessed there were problems over the packaging and fertiliser inputs which would not currently make the use of the term ‘sustainable’ realistic.

There are other pieces of work being done such as Life Cycle analysis- which is supported by Growing Media Europe (GME) and has been contracted to a third party in Holland. This is very much about the LCA for peat and at present does not really look at other physical components. GME are looking to member companies to sign up to the scheme and model.

At the present time in the UK there are basically five streams of alternatives to peat available. They are:

- 1) Coir – the pith from the husks of coconuts,
- 2) Barks- both pure pine and composted mixed conifer,

- 3) Woodfibres- this can be anything from chipped products to mechanically extruded to Steam and pressure cooked and extruded, more details of Woofbres can be found by looking at the website of Prof Brain Jackson at NCSU, America,
- 4) Composted Green waste- this has to be defined very carefully to genuinely be green waste and avoid food or animal inputs for both avoidance of salts levels and also concerns about animal bye-products,
- 5) AD fibres from energy production systems – as with 4 above, very well defined waste input streams need to be considered and the pasteurisation and drying of the separated fibres needs to be included in the process. The local EA's have to be presented with the evidence of the safety of use of the end product,

The problem with many of the above is sheer availability and competition in the market place of alternative uses. The obvious example of issues for say woodfibres relates to the incentivising of the burning of wood as bio-mass to produce both electricity and heat- which has forced the price of chip over the last 5 years from £25 to 50/ tonne. Obviously a contract with a power station for 365 days a year supply of chip compared to the partially seasonal requirement within Horticulture makes the former a much better business prospect.

Coir has many issues surrounding its use such that in the Germany whilst it is currently used as an alternative the Germans have decided this is not a long term proposition. We have immediate issues such as Covid in the developing world and even in 'normal' years the issue surrounding collection and processing especially across the monsoon periods. Current worldwide demand for GM might be as great as 44m m³ with available supply of coir being at around 9m m³.

In the UK Defra have supported R&D programs such as the project CP138 – administered by RSK-ADAS for Defra- which was a five-year program to look at physical properties of materials and to model the data. The program finished in Dec 2019 but a model using measurable physical characteristic was the output and this can be used to predict the physical behaviour of new materials both as stand-alone materials and also as additives to mixes.

The biggest challenge for the industry moving forwards is the understanding of the microbiology of individual materials and the interaction of the differing biologies of materials when mixed together. At present the industry has become accustomed to making substrates and being able to store them ahead of use. Based on peat dominated mixes from well understood sources this has in fact worked well in most cases, however the introduction of new biologically active materials means that predictions of the behaviour once made and during storage is not as easily predicted. This is an area of outstanding R&D – it should be remembered that the industry has been working with peat dominated mixes for at least 50 years and even then there are times when the assumed performance of the mix does not match growing results. The very idea that in less than ten years the industry can easily replace peat(s) and have a seamless transition is at best naïve.