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**An Comhchoiste um Thalmhaíocht, Bia agus Muir**  
Tuarascáil Taistil – Cuairt ag Toscaireacht ar Lárionad Taighde  
Bia Theagasc, Baile an Ásaigh, Baile Átha Cliath 15  
Bealtaine 2024

**Joint Committee on Agriculture, Food and the Marine**  
Travel Report – Delegation Visit to Teagasc's Food Research  
Centre, Ashtown, Dublin 15  
May 2024



## Membership

The following Deputies and Senators are members of the Joint Committee on Agriculture, Food and the Marine of the 33<sup>rd</sup> Dáil Éireann and the 26<sup>th</sup> Seanad Éireann.



Sen. Victor Boyhan  
Independent



Sen. Lynn Boylan  
Sinn Féin



Jackie Cahill T.D.  
Fianna Fáil [*Cathaoirleach*]



Michael Collins T.D.  
Independent



Sen. Paul Daly  
Fianna Fáil



Michael Fitzmaurice T.D.  
Independent



Joe Flaherty T.D.  
Fianna Fáil



Paul Kehoe T.D.  
Fine Gael



Claire Kerrane T.D.  
Sinn Féin



Brian Leddin T.D.  
Green Party



Sen. Tim Lombard  
Fine Gael [*Leas-Chathaoirleach*]



Johnny Mythen T.D. Sinn  
Féin



Sen. Denis O'Donovan  
Fianna Fáil



Michael Ring T.D.  
Fine Gael

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## Introduction

The topic of *Horticultural Peat* is included in the Work Programme of the Joint Committee on Agriculture, Food and the Marine (the “Committee”).

In May 2023, the Committee wrote to Mr. Charlie McConalogue, T.D., Minister for Agriculture, Food and the Marine (the “Minister”), to highlight the impact of the shortage of peat growing medium on the horticulture industry. In reply, the Minister outlined some of the ongoing actions which are being taken to address the issue. For example, the Minister highlighted the “Beyond Peat” project, the aims of which are, among others, to develop alternatives to horticultural peat, and to fund research projects through the EU Producers Organisations scheme for fruit and vegetables. The Minister also issued an invitation to the Committee to visit a commercial mushroom production site, so that the Committee could make itself aware of the research being undertaken on the development of horticultural peat alternatives.

The Committee, at a private meeting on 28 August 2023, agreed to avail of the invitation. Arising from the decision, a delegation of the Committee visited a number of commercial mushroom producers in Co. Monaghan on 20 November 2023, to view their production facilities and research.

As part of its ongoing work on the topic of *Horticultural Peat*, the Committee, at its private meeting on 12 December 2023, agreed to send a further delegation of the Committee to visit Teagasc's Food Research Centre, to view its research into horticultural peat replacement.

## Committee Delegation

The delegation of the Committee visited Teagasc's Food Research Centre in Ashtown, Dublin 15, on 06 February 2024. The delegation included the following members of the Committee (the “Delegation”):

- Claire Kerrane, T.D.; and
- Senator Victor Boyhan.

The Delegation was accompanied by the Clerk to the Committee, Mr. Christy Haughton.



## Arrival

The following Officials from Teagasc and the Department of Agriculture, Food and the Marine (the “Officials”) welcomed the Delegation upon its arrival to Ashtown:

### *Teagasc:*

- Mr. Dermot Gallagher, Head of Horticulture Department;
- Mr. John Spink, Head of Crops, Environment and Land Use Programme;
- Dr. Michael Gaffney, National Research Co-Ordinator, Beyond Peat Project;
- Dr. Helen Grogan, Mushroom Research; and
- Dr. Eoghan Corbett, Research Officer.

### *Department of Agriculture, Food and the Marine:*

- Ms. Deirdre Fay, Head of Horticulture and Plant Health Division; and
- Dr. Rachel Wisdom, Agricultural Inspector, Horticulture and Plant Health Division.



*Fig.1 – The Delegation at Teagasc’s Food Research Centre, together with Officials from Teagasc and the Department of Agriculture, Food and the Marine.*

## Briefing

The Delegation's visit commenced in the boardroom with the Officials, where a presentation on the 'Beyond Peat' project and other related projects was delivered. Dr. Michael Gaffney, with contributions from other Teagasc Officials, gave an update on the various research projects being undertaken and the results to date.

Dr. Michael Gaffney emphasised that there is no one solution in the provision of a substitute for horticultural peat ("substitute"), the need for which arises from Bord na Mona's decision to cease production of a substitute in 2020. There are several reasons for this:

- There needs to a constant, available and sustainable supply of the substitute;
- The substitute must fit the business model in operation, and it must be economically viable in an industry that operates on low profit margins;
- The substitute must have a minimal environmental impact when it is used; and
- The substitute must deliver the same crop yield as horticultural peat, with a quality product as the output, all within a reasonable growing period.

The Officials informed the Delegation that in order for a crop yield, which uses a substitute as its growth medium, to be economically viable, a square metre of the substitute must produce up to 40 kilogrammes of mushrooms within a production cycle. Furthermore, the yield must be of good quality.

It was further explained that horticultural peat has been the preferred growing medium historically, because of its characteristics:

- Good moisture retention;
- Chemically inert and pest-free;
- Low bulk; and
- Low cost.

However, horticultural peat is nutrient-poor, and therefore another growth medium which is richer in nutrients, such as straw, for example, is used to supplement horticultural peat.

During a previous visit of a delegation of the Committee to the commercial mushroom producers' facilities in Co. Monaghan during November 2023, that delegation of the Committee was informed that those mushroom producers were using horticultural peat which had been sourced in Northern Ireland. Furthermore, it was explained to that delegation of the Committee that it is still possible to harvest peat from sub-30-hectare plots of peatlands in Ireland, though in order to do so, one must comply with a stringent, complex, hydrological testing and licencing regulatory compliance regime.

Dr. Michael Gaffney also informed the Delegation of other engagements undertaken by Teagasc in its pursuit of a viable substitute for horticultural peat, such as:

- A knowledge research project involving sixteen countries; and
- Interactions with the private sector, where Teagasc trialled two commercial horticultural peat substitute products.



## Beyond Peat Project

Mr. Dermot Gallagher and Dr. Michael Gaffney both gave a presentation on the 'Beyond Peat' project (the "Project"), which is funded by the Department of Agriculture, Food and Marine.

It was disclosed that the Project involves utilising organic bio-resources and novel technologies to develop specifically designed and sustainable peat replacements for professional horticultural crop production.

The Project involves the following:

- Assessing the current available alternative growth and casing materials across the key sub-sectors of horticulture;
- Developing advanced growth media utilising new technologies; and
- Transforming organic wastes into materials with characteristics for enhanced plant and mushroom performance.

The research being undertaken as part of the Project will also involve independent assessments of the agronomic and economic implications of the alternative growing material, which will feed into national policy regarding the substitution of peat and ongoing development of the horticulture industry.

For any viable alternatives to horticultural peat identified as part of the Project, the present and future availability, potential incorporation rates, and cost-competing uses will also be considered.

Dr. Michael Gaffney stated that a further focus of the Project is to identify materials which can be used to create a substitute for horticultural peat. It is hoped that these will be sourced from renewable bio-sources, such as coir, and from waste or by-products from industries or land use in Ireland, thereby extending the use of these materials, and minimising the impact that their use may have on the environment.

Dr. Michael Gaffney then presented on a number of the current research elements of the Project:

- Coir, which is a natural fibre extracted from the outer husk of coconut;

- Bark Pine;
- Wood Fibre;
- Corporate Green Waste; and
- Biochar.

According to Dr. Michael Gaffney, the results to date, in respect of each of the research elements above, are mixed, with crop yields for mushrooms, soft fruit and nursery stock, either holding up or slightly down, when compared to production from horticultural peat. In some instances, an extended production cycle was recorded, although there have also been some quality issues. Furthermore, Dr. Michael Gaffney stated that for those alternative growth mediums with good results, there will be significant demand, which will call into question their sustainability. Therefore, identifying a replacement for horticultural peat is a significant challenge, but peat dilution, i.e., the gradual reduction in peat usage, is underway.



Fig. 2 –A Teagasc infographic, detailing the Beyond Peat project.



Fig. 3 – Samples of potential substitutes for horticultural peat, which are currently being trialled as part of the *Beyond Peat* project.

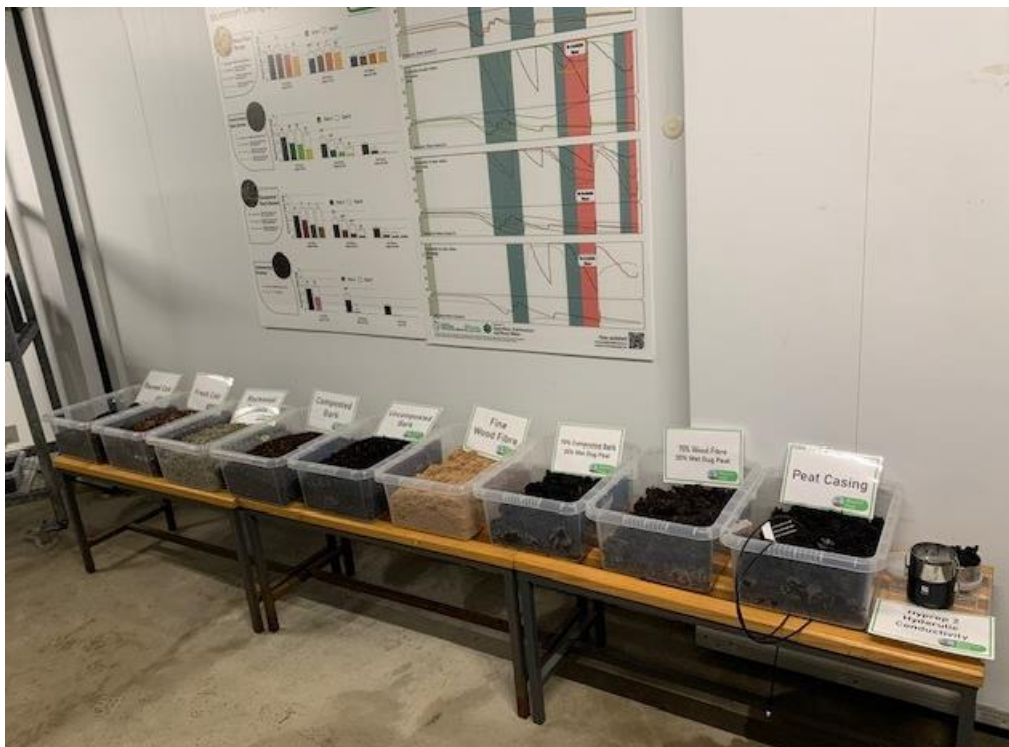


Fig. 4 – Samples of potential substitutes for horticultural peat, which are currently being trialled as part of the *Beyond Peat* project. The charts in this photograph display some of the results from the *Beyond Peat* project, with reference to the quality of the mushrooms produced and the related growing periods.

## Visit to the Mushroom Research Unit and Glasshouse

At the conclusion of the briefing session, the Delegation and Teagasc Officials proceeded to the Mushroom Research Unit, where Dr. Helen Grogan spoke about the different alternatives to horticultural peat which have been trialled as part of the Project, and the relevant results:

- Where a peat layer of five centimetres is combined with compost, and by using peat-casing technologies, the results showed a reduced yield and an extended growth cycle, when compared to horticultural peat. The peat and the compost could both be recycled;
- Where unprocessed blends of bark fibres were used, without horticultural peat, the results showed an average yield and extended growth cycle, when compared to horticultural peat. However, there were issues with the output in this regard, such as discolouration of mushrooms, dirty caps and mould; and
- The research in respect of the use of a mix of 70% wood fibre (in this case, Sitka Spruce), and 30% horticultural peat, is ongoing.

Dr. Helen Grogan also referred to other coir and biochar research, which is being trialled, but results were not available at the time of the visit.



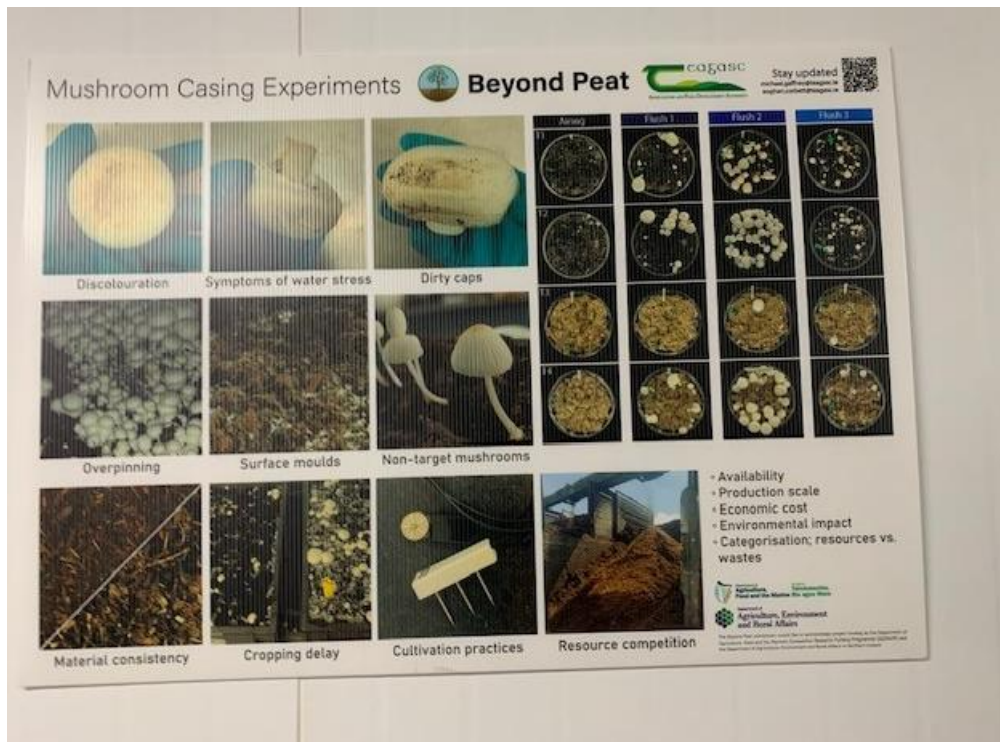


Fig. 5 – Some of the issues with mushrooms that were produced using alternatives to horticultural peat.



Fig. 6 – Samples of the mushrooms produced from the trials as part of the Beyond Peat project, in the Mushroom Research Unit.



*Fig. 7 – Samples of some alternatives to horticultural peat.*

The Delegation then proceeded to the Glasshouse, where Dr. Michael Gaffney and Dr. Eoghan Corbett gave a presentation on research on substitutes for horticultural peat used in the production of nursery stock plants. The research involves looking at growth rates, product output, and how different nursery plants react to different growth medium.

Dr. Eoghan Corbett stated that this research is being conducted over a two-year period, and the first-year data is now becoming available. The pictures below show the results of the research undertaken. Again, similar to the mushroom research trials, the results of this research appear to be mixed.

The Delegation expressed its gratitude for the support it received during the visit.



*Fig. 8 – Samples of the nursery plants produced from the trials as part of the Beyond Peat project, in the Glasshouse.*



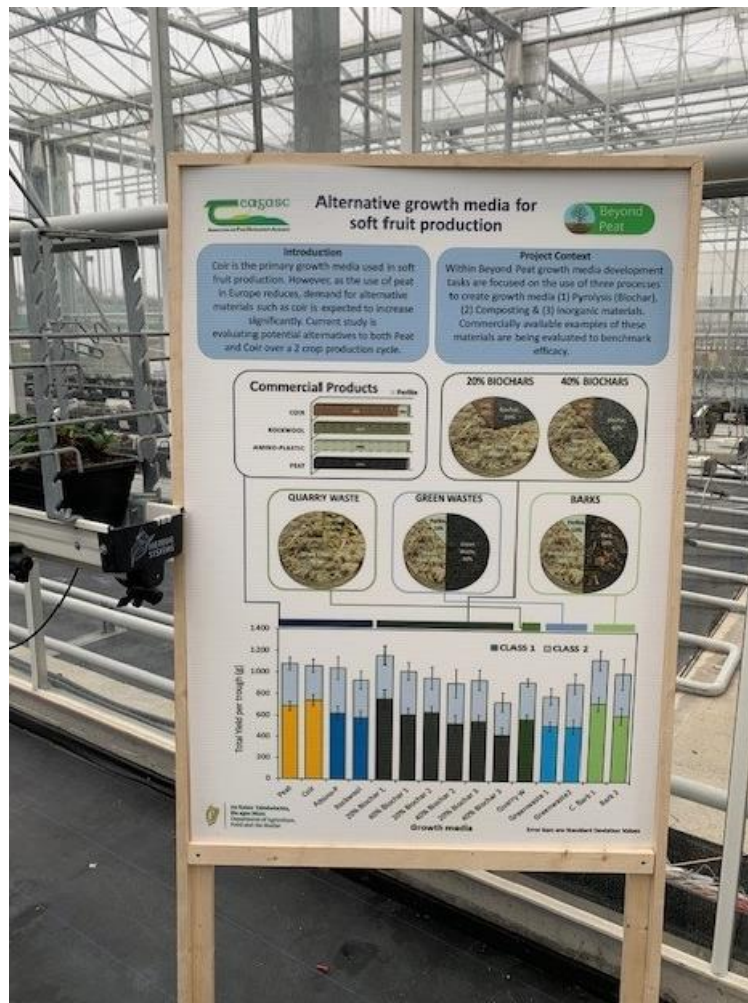


Fig. 9 – A Teagasc infographic, detailing the Beyond Peat project as it relates to soft fruit production.

## Conclusion

The Committee recognises the outcomes of the “Beyond Peat” trials, while acknowledging the limitations of some of the results, such as extended production cycles. The Committee supports the continued need for further research to build on these results.

The Committee believes that Teagasc should continue its engagements, both on an international level, and with commercial enterprises, with the objective of identifying viable alternative growth mediums for the horticulture industry.

The Committee acknowledges the opinion of the Teagasc research staff that in all probability that there will be no ‘one’ substitute to horticultural peat that will be available in the quantities required, which is both sustainably produced and economically viable for producers. Therefore, there may be a need for several alternative growth mediums to be developed.

The Committee also recognises that different production systems in the horticulture industry will be needed for alternative growth mediums to be used. This will involve reconfiguring the production systems of the industry. As the industry operates on small profit margins, a case should be explored for supports from the State, to be provided to growers and producers to support this reconfiguration.

Given the importance of regional economies and communities in the Midland and Western Region, the Committee believes that a solution to the current difficulties facing the horticulture industry needs to be progressed as a matter of urgency. The Committee is concerned by job losses arising from the cessation of horticultural peat being made available to growers in the mushroom sector. The Committee’s core concern is to protect jobs in the horticulture and mushroom sectors. Jobs and businesses are currently at risk if a viable solution is not found. The Committee would like to thank Teagasc and the Department of Agriculture, Food and the Marine for their work on the “Beyond Peat” project. The Committee is encouraged by the preliminary trials as part of the “Beyond Peat” project and would welcome updates and data on the growing trials.



## Appendix 1: Terms of Reference

### Powers of Select Committees (DSO 96 and SSO 72)

#### **DSO 96**

Unless the Dáil shall otherwise order, a Committee appointed pursuant to these Standing Orders shall have the following powers:

10. power to—

- (a) engage the services of persons with specialist or technical knowledge, to assist it or any of its sub-Committees in considering particular matters; and
- (b) undertake travel;

Provided that the powers under this paragraph are subject to such recommendations as may be made by the Working Group of Committee Chairmen under Standing Order 120(4)(a).

#### **SSO 72**

Unless the Seanad shall otherwise order, a Committee appointed pursuant to these Standing Orders shall have the following powers:

10. power to –

- (a) engage the services of persons with specialist or technical knowledge, to assist it or any of its sub-Committees in considering particular matters; and
- (b) undertake travel;

Provided that the powers under this paragraph are subject to such recommendations as may be made by the Working Group of Committee Chairmen under Standing Order 107(4)(a).



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