

**PHC2021/02: Identifying the plant health risks associated with plant waste disposal and peat-free growing media, and developing best practice guidance for waste disposal and composting across sectors**

**Background:** Drives to sustainably compost waste material and to use alternatives to peat in growing media have potential to alter the plant health risks in the UK's horticultural, agricultural, arboricultural and forest industries. These sectors discard huge amounts of waste plant material (often diseased) and used potting mix, for which there is currently no guidance on safe disposal regarding plant pests and pathogens. In horticulture, the most common solution is to dump waste material on the nursery site, with these dumps often located close to growing stock and vulnerable landscapes (i.e., hedgerows, woodland, watercourses) into which plant pathogens can spread. This presents a serious biosecurity risk from a plant health point of view, as dumps can act as inoculum reservoirs for many plant pathogens. A related issue from the agriculture sector is that large quantities of garden and food waste are generated by local authorities, and many forms of organic waste are spread on agricultural land with the expectation of benefits to soil health and organic matter. However, there are issues with the acceptability of some forms of waste to end users or in terms of how wastes are classified, and their potential to impact plant health.

Finished growing media products will dilute down the composted waste with 'carrier' material, which until now has commonly been peat. Due to environmental concerns, peat is being phased out and alternatives such as wood or coire may travel large distances and carry different risks of importing plant health issues.

The plant health and wider risks associated with poor composting practice or imported carrier products as alternatives to peat could be significant and are not well understood. Guidance on best practice to minimise the plant health risks to Scotland from these activities is needed.

This is a call to firstly review current practices with stakeholders, identifying risks, opportunities and knowledge gaps. Secondly, if justified by those delivering this project, confirmation of the plant health risk from selected plant waste disposal, composting and peat substitution practices can be demonstrated via diagnostic and evidence work. In the former, we seek evidence and expert opinion on the risks associated with current practices. This would cover different types of waste material being composted and include 'problem' wastes such as soil waste, which is hard to compost. The focus is therefore on composted waste and waste dumps in horticultural and nursery enterprises. However, it will extend to agricultural practices and large-scale composting enterprises so that the linkages and interdependencies can be understood. In addition, due to the phasing out of peat-based composts, a component of this project will also assess the plant health and biosecurity risks associated with replacing peat both with domestically or internationally sourced alternatives – with a focus on reviewing available solutions and the identification of knowledge gaps. Following on from stakeholder

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feedback, evidence on the pathogens and pests present may be gathered through diagnostic testing to fill evidence gaps identified.

A key outcome of this call will be the development of guidance on safe and effective composting methods for nursery-produced plant/soil waste. This area is considered a top priority for the UK's new Plant Healthy Certification Scheme and the project partners will be expected to liaise closely with representatives from the Plant Healthy Scheme to deliver to the needs of this plant health stakeholder. This scheme requires accredited nurseries to comply with a set of management standards to help tackle the increasing risks from invasive plant pests and diseases being spread via the plant trade. A set of safe composting standards for the plant nursery industry will also be applicable to other sectors.

#### **Objectives and research required for this call:**

1. Series of stakeholder workshops with representatives from the horticulture, nursery, agriculture and forestry sectors to understand current plant waste disposal, composting and peat substitution practices and to identify hard-to-compost waste, and any practical or perceptual issues around these practices in different sectors. The types of risk to be considered by the project will be discussed with stakeholders so that the ethics and potential consequences of any pathogen detection efforts are fully explored and understood with stakeholders. Guidance on stakeholders to include in workshops will be given by the PHC.
2. Using the priorities identified in the workshops we then ask for an expert review combining the findings from the workshop with available literature to identify the risks associated with current practices, as well as available solutions. Any interdependencies and evidence gaps will be identified, and we are particularly asking for evidence gaps where targeted diagnostic testing would be informative in confirming the level of risk.
3. If justified in the application, a practical plant pathogen sampling and identification component should be included that identifies the likely priority areas where diagnostics would help inform on the level of risk associated with practices, but adaptable to the key areas identified in objectives one and two above.
4. Finally, there should be follow up workshops to discuss findings with stakeholders and to determine best practice advice with representatives from the Plant Healthy Scheme and the PHC, communicated via sector-specific 'fliers' and other appropriate dissemination strategies.

#### **Outputs required:**

- A full report (<30 pages), including details of any practical work undertaken
- Best practice guidance tailored to the sectors included in the stakeholder workshops
- A 1-2 page policy summary of findings and recommendations

#### **Indicative key dates:**

- Deadline for submission of application form: **12pm on Friday 22<sup>nd</sup> October 2021**
- Project start: 1<sup>st</sup> December 2021
- Overview of plans and project start-up meeting with PHC Directorate: by 17<sup>th</sup> December 2021
- Meetings with Scottish stakeholders: by end of January 2022
- Initial evidence review and summary of gaps and evidence needs: 11<sup>th</sup> March 2022

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- Discussion with PHC about testing and diagnostics phase: by end of March 2022
- Completed evidence review and summary 31<sup>st</sup> May 2022 (if the project has no practical diagnostic component, then this will also be the deadline for the final report)
- Final report by: 30<sup>th</sup> July 2022 if the project does have a practical diagnostic component.
- Follow up workshops: either by end of June 2022 (no diagnostic component), or by end of August 2022 if project has a practical diagnostic component.

Detailed milestones to be confirmed by bidder.

**Date all work needs to be completed by:** 30<sup>th</sup> June 2022 or 31<sup>st</sup> August 2022 (see indicative key dates)

**Maximum funding available (including overheads and VAT, where applicable):** Up to £50,000; applications that seek the maximum funding would be expected to have a practical diagnostic component.

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