

## PHC2021/01: Biosecurity practices to support plant health: a review of knowledge and practice

**Background:** The risk of pests and pathogens is becoming increasingly understood and is reflected in biosecurity policies, emerging practice and requests for guidance on how everyone can contribute to keeping our plants and environments healthy. The PHC has summarised five key principles to help guide stakeholders across the agriculture, forestry, horticulture and natural environment sectors to provide insights into best practice. Recommendations and developments have included use of pest risk registers, surveillance and detection techniques, integrated pest management, and attention to biosecurity of plant rearing in nurseries. However, there are other aspects of biosecurity practice for which advice remains unclear or there are no commonly agreed best practices.

Discussions with stakeholders have identified two broad situations where further evidence is needed on effective interventions to protect Scotland's plants:

- How to achieve appropriate biosecurity on sites which are visited by many people? In particular, how to mitigate the risk of the visitors inadvertently (e.g. on footwear) bringing new pests and diseases with them to sites such as botanic gardens, historic sites, nature reserves and forest parks.
- How to achieve appropriate biosecurity when moving machinery and equipment between sites? For example, how to clean large wheeled and tracked vehicles to prevent wholesale movement of soil and associated organisms from an infected to an uninfected site.

In both cases there have been attempts to raise awareness of the importance of cleanliness (of boots, bikes, machinery) - including campaigns such as 'Keep it Clean' and #Muckfreetrucks (for animal health). However, the full range of options has seldom been explored, nor has there been much apparent innovation or crossover between different sectors (including animal and plant health) and between countries. Furthermore, reliance on chemical cleaning agents may be at odds with pressures to reduce the use of chemicals in these environments or may have unintended consequences (e.g. damage to beneficial organisms in the vicinity, build-up of resistance).

Therefore, this project invites applications to review existing knowledge and established successful practices, including those from other countries, and potential new innovations that would support improved biosecurity.

**Impact:** Better understanding of the options available to managers wishing to practice good biosecurity at a site attracting visitors or when moving machinery and equipment between sites.

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

To draw together available evidence relating to biosecurity practices applicable to visited sites and to machinery.

#### Plant Health Centre

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It is anticipated that the work will largely draw upon and summarise existing literature (including trade articles, peer-reviewed papers and online resources), expert and practitioner knowledge and existing sectoral practices in Scotland, UK and internationally. The expectation is that direct contact will be made with practitioners using the techniques, and that a broad range of sources (including beyond plant health) will be explored. It should provide information on -:

1. Techniques to improve biosecurity at special sites (including use of footbaths; information campaigns, other techniques).
2. Techniques to improve biosecurity of equipment movements (including use of on-site or static cleaning stations).
3. Categorisation and listing of techniques, specific products and communication methods used.
4. Tests of efficacy, criteria for selection and other information on choice of practices including risk assessments and an assessment of the practicality and affordability of solutions.
5. Recommendations and next steps.

**Outputs required from the project:**

- Final Report (<30 pages) on investigations, to contain key sources and recommendations for implementation or further work.
- Brief policy summary (1-2 pages) and contribution of relevant information for PHC recommendations to practitioners.
- Attendance at briefing discussion with PHC Steering group to discuss findings and next steps.
- Presentation to Plant Health conference.

**Indicative key dates:**

- Deadline for submission of application form: **12pm on Friday 22<sup>nd</sup> October 2021**
- Project start date: 1<sup>st</sup> December 2021
- Overview of plans and project start-up meeting with PHC Directorate: by 17<sup>th</sup> December 2021
- Final report by end of April 2022
- Briefing meeting with PHC and Conference participation: to be confirmed

Detailed milestones to be confirmed by bidder.

**Date all work needs to be completed by:** 29<sup>th</sup> April 2022

**Project type:** Collaborative

**Maximum funding available (including overheads and VAT, where applicable):** £30,000.

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