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PHC Bulletin Newsletter



Updating you on recent activities of the Plant Health Centre

Issue 7, December 2021

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Welcome to Issue 7

Welcome to the December edition of our news bulletin. The nights have certainly drawn in, and while there aren't currently many hours of daylight we can take comfort in the fact that the Winter Solstice approaches and we'll start to head out the other side soon. While we are used to Winter bringing its fair share of disruptive weather, we should acknowledge the damage done by storm Arwen in late November; not just to property, the electricity grid and communication lines, but to our forests and amenity plantings. We hope that all of you were safe and well during this time and did not experience major disruption. While the priority may be returning roads, homes and power lines to working order, we hope that those involved with the felling and removal of damaged trees are taking heed of the second of our key principles; to "Keep it Clean", and make sure that machinery, tyres, boots etc are cleaned between visits to different sites, to prevent the spread of pests and diseases (known or unknown). It is perhaps timely that we have recently commissioned a project that will review knowledge and practice of biosecurity practices to support plant health, to try to tease out best practice in different situations, including learning from other countries and sectors.

In this issue, along with general developments on plant health relevant to Scotland, we will be updating you on recent events at which the PHC has been represented (including COP26), as well as recently published reports and ending with a blog all about the importance of plant health to some of our favourite festive drinks.

*Surprise arrival of *Phytophthora pluvialis**

Many of you will be aware that at the end of October the Forestry Commission confirmed that it had found the tree pathogen *Phytophthora pluvialis* following routine plant health surveillance, initially in woodlands in Devon and Cornwall, with a notice coming into effect on the 19th of November. *P. pluvialis* is known to affect a variety of tree species, including Western Hemlock, Douglas Fir, Tanoak and several pine species including radiata pine. These represented the first findings of *P. pluvialis* in Europe, and triggered further investigation and testing across the UK.

As a result of this investigation, the pathogen has also been found in Cumbria and near Loch Carron in the North West of Scotland. Acting on the finding near Loch Carron, Scottish Forestry has introduced timber movement restrictions in a demarcated area around the infected site to help avoid accidental spread of the pathogen. Within this zone,

no-one can move any timber of Western Hemlock, Douglas Fir, Tanoak and pine species within or out of the area without notifying Scottish Forestry in advance.

Woodland managers, landowners, the forest industry and tree nurseries are being asked to be vigilant and report any suspect trees via [TreeAlert](#) (a [symptom guide](#) is available).

New legislation and import requirements

On the 2nd of December, new legislation [introduced](#) by Defra, Scottish and Welsh Governments came into force, with specific import requirements for *Prodiplosis longifila* (a gall midge pest of tomatoes, cucumber, asparagus and other species), *Agrilus fleischeri* (beetle pest of poplar and willow), *Thekopsora minima* (rust pathogen of blueberry and other *Vaccinium* species); modification of the existing measures for *Agrilus planipennis* (Emerald ash borer - making permanent the prohibition on plants of *Fraxinus* [ash] from countries where *A. planipennis* is known to occur) and an introduction of a prohibition of *Polymnia sonchifolia* (yacon, a tuberous vegetable). There are also changes relevant to the importation of bark, fruit, vegetable or plants for planting; Full legislation changes can be found [here](#).

Sometimes it can look like statutory bodies have an ever-increasing list of things to prohibit the movement of, and we often forget that measures are lifted as well when new evidence arises: recently Australia [removed the import measures](#) for *Candidatus Liberibacter solanacearum* on carrot, celery, chervil, fennel, parsley and parsnip seed after scientific evidence demonstrated that seed transmission of this bacterial pathogen does not occur.

Video of the Scottish Government's Centre's of Expertise

In November, as part of the COP26 events organised by SEFARI, a Talking Heads video was launched that covers the vital role that the Scottish Centres of Expertise play in interacting with and delivering to Scottish Government policy needs. The video is [available here](#), and in it our Director Ian Toth describes the important work of the Plant Health Centre and how plant health is affected by climate change.

I hope that you enjoy reading the rest of our bulletin and, as always, please don't hesitate to get in touch with us (details at the end of this email) if you have any issues for plant health in Scotland that you would like to highlight or questions that you have about our work. I hope that you all have a Merry Christmas and a Happy New Year!

-Sonia Humphris, Plant Health Centre Manager

Events



COP26

In addition to the [Talking Heads video](#) that was launched during Cop26 (covered in the PHC News section of this bulletin), on the 9th of November The Plant Health centre was represented in the following events, organised by [SEFARI](#):

KE: Lessons from High Impact Research – Scottish Centres of Expertise Model

Fiona Burnett, our Sector Lead for Agriculture, joined the panel [pictured above third from right] which included representatives from all the current Centres and RESAS. They discussed how the different approaches to knowledge exchange taken have had real impact with different stakeholders, considering examples of where Scotland continues to play an important role in providing solutions to the global climate challenge. A recording of the event is available to watch [here](#).

Vectors and their impact on plant, animal, and human disease

Our Director Ian Toth and Adam Kleczkowski (PHC Science Advisory and Response Team member) presented in this session that explored the intersection between changing animal, plant and zoonotic (diseases that can be transmitted between animals and humans) disease threats and climate change. The focus was on vectors (organisms that transmit a disease or parasite from one animal or plant to another) and the diseases they carry, looking at emerging trends and engagement and communication with stakeholders. A recording of the event is available to watch [here](#).

Our Plants, Our Future

On the 6th to the 8th of December, the British Society for Plant Pathology and European Foundation for Plant Pathology jointly ran a hybrid online and in-person conference entitled "Our Plants, Our Future". Gerry Saddler, the Chief Plant Health Officer for Scotland, and our Director Ian Toth presented within the session 'Framing Policies and Setting Strategies in Plant Health', sharing strategies used in Scotland to protect plant health.

Publications



In October we published the final reports (plus supplementary information) for three projects led by Mariella Marzano (Forest Research) that were launched in 2019 and completed this year. Each of them delved into one of three large and complex areas to assess plant biosecurity risks to Scotland. In addition to these three reports, due to some of the originally planned work not being possible to conduct during lockdown, the team also provided a fourth report that explored the role that modelling could play in assessing and mitigating biosecurity risks arising from large-scale plantings. These reports contain a wealth of findings, conclusions and recommendations, and we strongly recommend reading each final report to get a full picture of the results.

In addition to the full reports, [a policy report](#) was also prepared that distils out the common issues across each of the reports and presents the key findings and suggested responses. These reports formed the basis of a recent Centre workshop run by Mariella Marzano (Forest Research) and Rehema White (University of St. Andrew) that explored how the issues raised can be prioritised and addressed. It is the intention of the PHC to consider how we can best target future research and/or outreach activities that will help to support biosecurity best practice in Scotland.

We would like to take the opportunity to thank all those involved with these projects for delivering such excellent and important research during exceptionally challenging circumstances! The findings of this research were also presented at the Plant Health Centre's online mini-conference back in June, and the session is available to watch on our YouTube channel [here](#).

The individual reports are as follows:

[PHC2019/04 - Assessment of Large-Scale Plant Biosecurity Risks to Scotland from Non-Specialist and Online Horticultural Sales](#)

This project focused on an initial exploration of tree and plant biosecurity risks to Scotland arising from large-scale movement of plants via non-specialist (those for which plants are not their primary product type, e.g., supermarkets, DIY and lifestyle stores) and online plant retailers. Conclusions and recommendations include further engagement with retailers and focussed plant health information, so that retailers are aware of potential new threats as well as those present in their region. Suggestions included i) to work with trade

bodies to lead a series of focussed events and campaigns, to enable them to become biosecurity influencers both with their suppliers and customers; ii) to increase uptake of businesses joining the 'Plant Healthy' Certification Scheme to raise awareness of biosecurity issues and lead to an industry-led biosecurity standard.

PHC2019/05 - Assessment of Plant Biosecurity Risks to Scotland from Large Scale Plantings for Landscaping and Infra-Structure Projects

Planting for large-scale landscaping and infrastructure can typically involve tens of thousands of individual plants, potentially threatening plant health in Scotland due to the biosecurity risks of imports and widespread planting of infested or diseased plants. This project aimed to understand the extent and means to mitigate against such plant biosecurity risks with a focus on mapping the pathways from plant specification through to planting and establishment and highlight different biosecurity awareness for actors, in decision-making and procurement processes.

Several potential 'blind spots' were highlighted in the planting pathway that may pose biosecurity risks, including a low biosecurity awareness, variable inclusion of biosecurity measures and lack of species diversity in plant specifications, changes to plants for planting or lack of completed planting. Also, variations between specification and actual planting could indicate a systemic challenge to biosecurity. Recommendations included i) scoping to improve biosecurity information for non-biosecurity specialist roles through targeted communication that clearly outlines what biosecurity means and identifies where the risks lie; ii) the importance of promoting the use of diverse species in landscaping projects and clarifying the importance of diversity for resilience to pests and diseases.; iii) opportunities to encourage biosecurity considerations in specifications and iv) a biosecurity risk assessment process that is monitored throughout the planning to planting process which could strengthen oversight of biosecurity issues.

PHC2019/06 - Assessment of Plant Biosecurity Risks to Scotland from Large Scale Tree Plantings for Environmental Benefits

This report features five case studies from across Scotland and examines risks associated with large scale tree planting schemes, levels of awareness around pests and diseases, and how the decisions and actions of those involved can serve to reduce or exacerbate pest and disease related threats and long-term tree health. By highlighting best practice and lessons learned, it was hoped to ensure that future planting schemes can be successful and, importantly, reduce the likelihood of pests and diseases being introduced and spread into the wider environment.

Recommendations from this project included: (i) definitive guidance on what constitutes best biosecurity practice and a flier/booklet describing key actions and procedures to look out for would allow for more informed and objective choices when selecting a supplier; (ii) a high level of tree species diversity should be sought, to increase a scheme's resilience to existing and future pests and diseases; (iii) quarantining of received trees should be considered before they are planted, (iv) Scottish nurseries and those planning large-scale planting and restocking should seek to participate in the forthcoming Nursery Notification Scheme to help address the familiar difficulty of sourcing and supplying adequate tree stock; (v) sites located in regions with existing pests and diseases and receiving many visitors face heightened risk and should consider segregating users from vulnerable species of taking precautions such as outreach, cleaning/disinfecting stations and information boards; and, (vi) management and monitoring plans should be put in place to help ensure any threats to tree establishment and long-term health can be quickly identified and addressed.

PHC2019/05/06 - The Potential of Ecological and Epidemiological Models to Inform Assessment and Mitigation of Biosecurity Risks Arising from Large Scale Planting

This report focusses on whether and how ecological and epidemiological model frameworks can inform assessment and mitigation of biosecurity risks from large scale

planting using a combination of literature review and stakeholder engagement. The project aimed to identify priority steps to develop more useful models and tools for assessing biosecurity risks from planting in the future. Recommendations included:

- Models be co-designed with stakeholders and integrated with existing tools to support decision-making such as ESC (Ecological Site Classification) that predicts survival and yield of different tree hosts under current and future climate conditions.
- Cross-sectoral collaboration at all levels is required to collect and hold data on historical and current plant choices, locations and ecosystems as well as pest and pathogen detection, spread and impact.

Strategic Portfolio - Centres of Expertise

In October, a leaflet created by SEFARI gateway titled "Scotland's Centres of Expertise; Delivering evidence for effective policy and practice" was published, and is available on our [website](#). In this leaflet, each Centre of Expertise highlights examples of where impact has made a difference. The PHC chose to highlight work we have commissioned on the threat of *Xylella* (information that fed into the Government's response plan), and our ongoing work to identify a clear strategy for dealing with the threat of Potato Cyst Nematode (PCN) in Scotland - which is currently being supported by the Scottish Government, and we are overseeing the implementation of this strategy.

Blog Spot - Why fans of whisky and gin need to worry about plant health



As part of the UK's Plant Health Week, during the International Year of Plant Health, we published a series of blogs to highlight the importance of plant health to the wider public. One of these blogs, "Why fans of whisky and gin need to worry about plant health", written by two members of our Science, Advice and Response Team; Sarah Gurr (University of Exeter) and Sarah Green (Forest Research), and our Sector Lead for Agriculture Fiona Burnett (SRUC), outlined the threat posed to two of the nation's favourite beverages from plant pests and diseases. The blog was widely reported in the mainstream media at the time, sometimes with pun headlines like "[It's grim and chronic](#)" (Daily Mail).

Since many of us will be either giving, receiving and/or partaking of whisky and gin over the festive period, we thought it fitting to share this blog with you again. Rather than cut and past the whole thing here, you can find it [on our website](#) and read about the threats of diseases like Ramularia to barley and *Phytophthora austrocedri* to Juniper trees.

Merry Christmas and a Happy New Year from the Plant Health Centre!

Image credit: Juniper - by Bronisław Dróżka (Pixabay)



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The Plant Health Centre is a virtual centre of expertise funded by Scottish Government through RESAS (Rural and Environment Science and Analytical Services Division) to help tackle plant health challenges for Scotland



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