PHC Bulletin Newsletter

Plant Health Centre
Scotland's Centre of Expertise

Updating you on recent activities of the Plant Health Centre

Issue 9, May 2022

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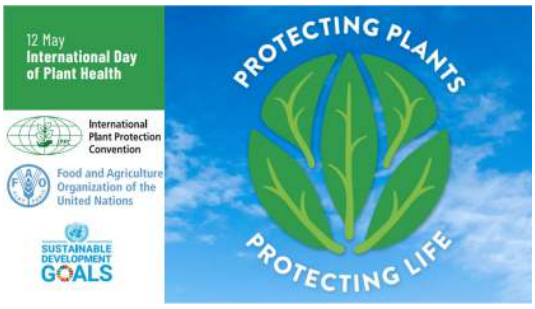

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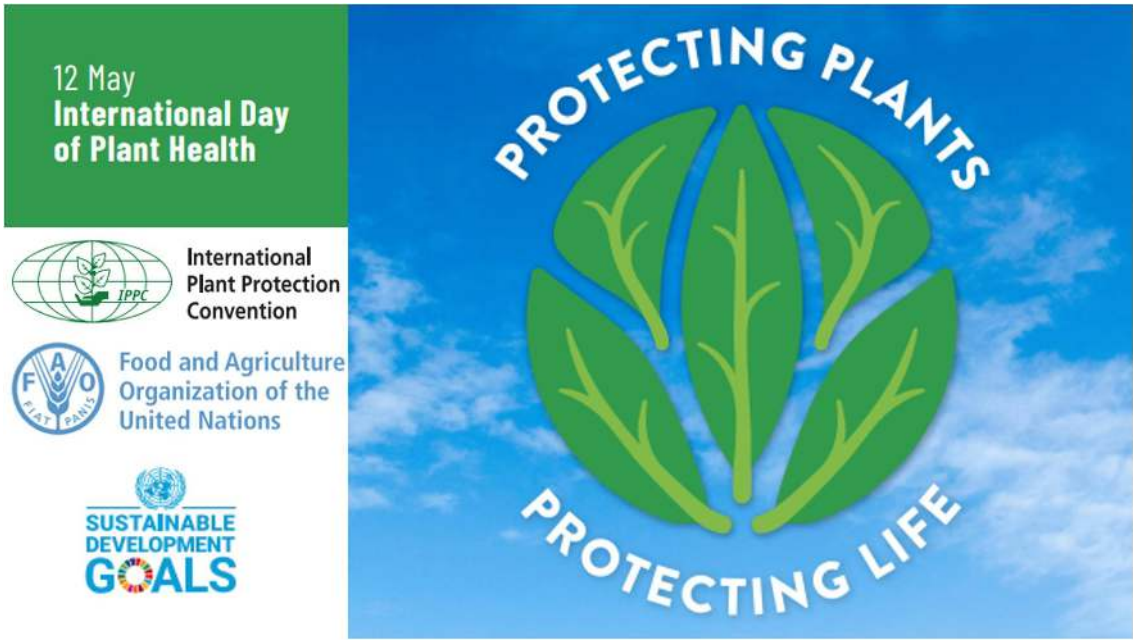


Welcome to Issue 9

Welcome to the May edition of our news bulletin. This bulletin is being shared with you on May the 12th, the International Day of Plant Health, as designated by the Food and Agriculture Organization of the United Nations - we hope that you have been using the opportunity to spread far and wide the importance of plant health!

In this issue, in addition to recent developments on plant health relevant to Scotland, we have a recently published report on *Xylella* to bring to your attention, and a blog penned by Matt Elliot (Plant Health & Biosecurity Scientist, RBGE) and Alistair Yeomans (Plant Healthy Certification Scheme) titled **Plant Health Centre funded research informs real-world improvements in plant biosecurity**, about two of our recently funded projects that Matt and Alistair are currently delivering (with others).

Confirmed Speakers: Scotland's Plant Health Conference 2022

The programme of presenters at Scotland's Plant Health Conference 2022 is now finalised - please see the Events section of this bulletin for further information. If you have not already done so, then we invite you to register for the event, which will be held at the Apex City Quay hotel, Dundee on Wednesday the 1st of June.

Pine processionary moth (PPM) intercepted on imported pine trees

In February 2022, an interception was confirmed at a nursery in England of the GB quarantine pest Pine Processionary Moth (*Thaumetopoea pityocampa*) on *Pinus sylvestris* and *Pinus nigra* trees imported from a French nursery that was within a designated pest free place of production for this moth. Statutory plant health notices have been issued to the affected nurseries and the destruction of all infested *Pinus* trees has been completed. Investigations are ongoing and Defra, APHA and the Forestry Commission are assessing the appropriate mitigation measures for other species, not confirmed to be infested, from the affected French nursery. From a Scottish perspective, initial findings show that Scotland has not received supplies related to this incursion. This incident has led to emergency legislation restricting the movement of pine and cedar trees into Great Britain. While it is fortunate that this incursion was identified and swift action taken, it serves as a sobering reminder the threats posed by the movement of plants, and the

importance of biosecurity at all stages in these activities. This features as a news article on our website.

Blueberry leaf rust, first report in UK

The first report of *Pucciniastrum minimum* (syn. *Thekopsora minima*) causing leaf rust on *Vaccinium corymbosum* (blueberry) in the United Kingdom has been published, including its pathogenicity on *Vaccinium myrtillus* (bilberry), a native *Vaccinium* in the UK.

Warm Winters and the pest risk to UK Agriculture

A recent study that employed the Met Office's UNSEEN model, found that there is a 40% likelihood of experiencing a year with unprecedented early aphid *Myzus persicae* flight during the next decade in the UK. As *M. persicae* is a vector of plant viruses and resistant to many insecticides, impacts on crops could be substantial, and this work is a reminder of the important intersection between climate change and plant health. The loss of insecticides due to regulatory withdrawal is also a key component of this complex situation, and we have just commissioned a project for 2022 in this space: *PHC2021/06: A targeted analysis of the impact of insecticide withdrawals in Scotland, in the context of alternative control options*.

A new Biosecure Procurement Requirement for tree suppliers in England

From June 2022, Defra and the Forestry Commission will introduce a 12-month pilot to test a new Biosecure Procurement Requirement as part of the England Woodland Creation Offer and the Tree Health Pilot grant schemes. This means suppliers will need to demonstrate that they can meet the biosecurity requirements set out within the Plant Health Management Standard (Plant Healthy). Read more here.

Risk Register additions and reviews

Eutypella parasitica, a fungal pathogen which causes cankers on Acer species and is present across Europe and North America, but absent in the UK, has a review in the UK Plant Health risk register. The review found that while it is unlikely to cause significant damage if introduced to the UK, statutory action should be taken against interceptions as a precaution. There are also recent reviews for *Xanthomonas fuscans* subsp. *fuscans* and *Xanthomonas axonopodis* pv. *phaseoli*, both bacterial pests of common beans and some other legumes, mainly transmitted by infected seeds (unknown UK distribution but widely present globally), and for *Pseudomonas syringae* pv. *persicae*, a bacterial pest of hosts such as peach and nectarine (absent from the UK, present in France, Croatia and New Zealand).
Recent additions to the Risk Register include: Blueberry necrotic shock virus, which is present in North America, causing stem dieback and yield loss. Cranberry ringspot virus, present in Europe and North America. *Erthesina fullo*, a Yellow spotted stink bug which is a pest of fruit and ornamentals, present in Asia with limited presence in Europe and South America.

Update on plant health import controls of EU goods

The UK Government recently announced that the remaining import controls on EU goods, including plants and plant products, will no longer be introduced this year. Instead, traders will continue to move their goods from the EU to GB as they do now. If you import high-priority plants and plant products, you will still need to obtain a Phytosanitary Certificate (PC) and provide pre-notification before your goods arrive in GB. Import checks of these goods will continue to happen at Places of Destinations (PoDs). If you import 'regulated and notifiable' produce and cut flowers, you will still need to pre-notify your goods before they arrive in GB.

40 Years of the BSPP

The British Society for Plant Pathology is celebrating it's 40th birthday this year, and has commissioned an excellent animated video explaining what connect plants, microbes and insects with the food on your plate.

Publication of biosecurity strategy consultation responses

The public consultation on the next Plant biosecurity strategy for Great Britain has concluded, and the consultation responses have recently been published, along with the technical report. There were 1,192 responses. The new strategy will be published in late spring 2022, and will establish the new vision for plant health, and set out how Defra will work with the plant sector over the next 5 years to implement this vision. The strategy builds on the consultation launched in September 2021 by Defra, Forestry Commission, the governments of Scotland and Wales, and agencies and delivery partners, to inform the approach to plant biosecurity over the next five years.

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.

-Sonia Humphris, Plant Health Centre Manager

Events

The speakers are now confirmed for **Scotland's Plant Health Conference 2022**, which will take place in-person at the Apex City Quay hotel, Dundee on Wednesday the 1st of June 2022. If you have not already done so then you can Register via Eventbrite. This is the current running order:

Gerry Saddler, Chief Plant Health Officer for Scotland and Head of SASA

Gerry will deliver the conference Welcome and Introduction, and officially open the event

Lorna Slater, Minister for Green Skills, Circular Economy and Biodiversity (pre-recorded)

In a departure from initial conference advertising, a pre-recorded message from Lorna Slater, co-leader of the Scottish Greens and MSP for the Lothian region will be played during the opening of the event

Morning - Session 1

Ian Toth, Plant Health Centre Director

Ian will given an overview of the Plant Health Centre's past, present and future activities

Phil Burgess, Scottish Potatoes

Phil will give an update on the Scottish Government funded project that is tackling Scotland's Potato Cyst Nematode problem

Clari Burrell, Scottish Forestry

Clari will cover the latest on Phytophthora pluvialis, a pathogen of pines that has only recently been found in the UK and Scotland

Caspian Richards, SASA

Caspian will deliver an update on Scottish Government plant health policy

Morning - Session 2

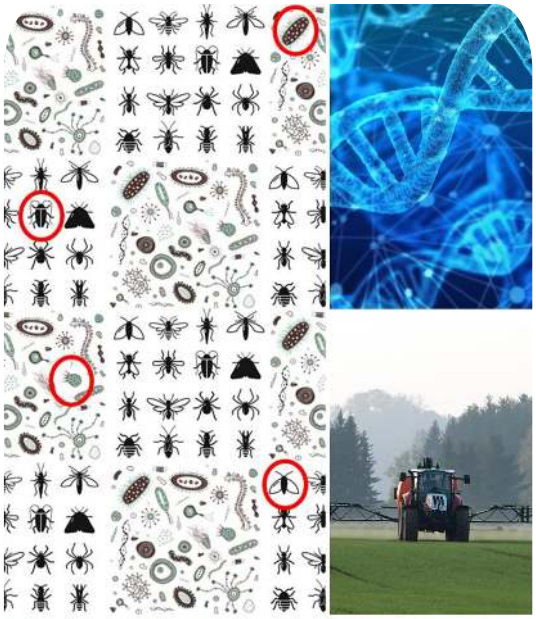
Ruth Mitchell, The James Hutton Institute

Ruth has been conducting a PHC-funded Plant Health Fellowship, based at NatureScot to better understand the plant health risks associated with habitat creation and restoration, and around the wider plant health risks to dwarf shrubland

Plant Health Centre Quickfire Projects

5-minute presentations linked to poster session, from:

Matt Elliot (RBGE); A Review Of Gene Editing For The Benefit Of Plant Health, as well as Biosecurity Practices to support plant health: a review of knowledge and practice
Katy Dainton (Forest Research); A preliminary investigation into the threat of Bronze Birch Borer (BBB - Agrilus anxius) for Scotland
Henry Creissen (SRUC); Identifying links between farmer and agronomist perceptions on pest and disease risk, the information sources they use to determine pesticide usage and the uptake of IPM methods
Sarah Green (Forest Research); 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



Lunch - including poster session

Afternoon - Session 3

Rehema White, St Andrews University

Rehema will run an Interactive Session - Trailing plants: co-producing knowledge on plant sources and movements within and across sectors

Wayne Grills, BALI

Wane will present an Industry perspective on the challenges with implementing plant biosecurity in the building and landscaping sector

Alistair Yeomans, Plant Health Alliance

Alistair is Scheme Manager for the Plant Healthy Certification Scheme and will give an update on its progress. Plant Healthy Certification aims to reduce the risk of introducing / spreading destructive plant pests via plant supply chains, protect the horticulture industry, other cultivated plants and natural habitats, and make it easy to identify businesses or organisations that grow, trade and manage plants to high standards of plant health and biosecurity

Dan Chapman, Stirling University

Dan will talk about Improving knowledge of *Xylella fastidiosa* vector ecology: modelling vector occurrence and abundance in the wider landscape in Scotland

Sallie Bailey, Deputy Chief Scientific Advisor for Environment, Natural Resources and Agriculture in RESAS

Sallie will deliver the closing remarks for the conference

Register now via Eventbrite

Publications

Since the last Bulletin Newsletter, we have published the Final Report and Policy Summary for project PHC2020/04 - Improving knowledge of *Xylella fastidiosa* vector ecology: modelling vector occurrence and abundance in the wider landscape in Scotland.

Project summary: The insect-vectored, bacterial plant pathogen *Xylella fastidiosa* is currently absent from Scotland and the wider UK, but if introduced could be a serious threat to trees and other plants. However, there is a lack of knowledge about the ecology and distributions of *Xylella* vectors in Scotland and the potential effects of this on any outbreak of the disease, which this project aimed to address.

Sampling of xylem-feeding potential vector insects (order Hemiptera, Aphrophoridae and Cicadellidae families) was conducted in 2021, including weekly sampling of different habitats at Loch Leven, Fife, and a wider survey across 16 sites in central Scotland.

Key findings from the project include (i) the principal *Xylella* vector in Europe, the meadow spittlebug (*Philaenus spumarius*), was the dominant species in Scotland and unexpectedly, it had a clear habitat preference for heathland, with densities ca 5-7 times higher than in other Scottish landscapes; (ii) simulated outbreaks showed that high vector densities promoted *Xylella* spread in heathland-dominated regions, especially with higher summer temperature and host plant connectivity, although simulated outbreaks in Scotland grew and spread much more slowly than the outbreak in Italy and (iii) in simulated eradication efforts, control was hampered by high proportions of asymptomatic host plants which evaded visual surveys. Early detection and large initial buffer zones improved control effectiveness.

Overall, this project has produced better understanding of vector phenology, species composition and habitat preferences in Scotland, as well as guidance for sampling vectors and controlling future outbreaks. It highlights a previously unappreciated risk to Scottish heathland, though this should be set in the overall context of a less suitable climate for *Xylella* outbreak growth and impact at present. Better understanding of vector dispersal ranges and of *Xylella* transmission and disease progression in heathland plants under Scottish climatic conditions would further inform on the potential risk of introducing *Xylella* to Scotland.

This is a fascinating piece of work with findings that are very relevant to decisions about

where and when we look for *Xylella* in the Scottish context, and we encourage you to read it in full!

Blog Spot

Plant Health Centre funded research informs real-world improvements in plant biosecurity - blog by Matt Elliot (RBGE) and Alistair Yeomans (Plant Healthy Certification Scheme)

The role of live plant movements in the spread of plant pests and diseases is now widely acknowledged. It is becoming increasingly clear that growers and plant handlers have responsibility for ensuring that the biosecurity risks along the supply chain are kept to an appropriate level. But how do they know where the high-risk points are and how do they minimise these risks?

The Plant Health Centre is funding two projects which aim to clarify the risks associated with a) plant waste disposal and peat free media, and b) visitors to sites, tools and machinery movement, and come up with solutions for all live plant handlers.

What to do with plant waste material has been an issue for some time, particularly in plant production nurseries. Material is often just added to a waste heap somewhere on the nursery in the hope that it will eventually breakdown. This has been shown to be a biosecurity risk as quite often these heaps contain pests and diseases which can leach out onto nearby healthy plants. Project PHC2021/02 is therefore in the process of producing very clear management guidance for anyone who has to manage plant waste. This will improve biosecurity in many businesses and organisations across the country.

Plant producers face another dilemma, they want to move towards peat free production but there are a number of issues. There is currently considerable inconsistency in peat free compost that translates to the irregular growth of plants, which is unacceptable to growers who can't afford to absorb such failures. In addition, it is not always clear where the components of peat free compost come from (e.g., coir, bark) and this represents a biosecurity risk. Project PHC2021/02 is also looking at these risks and other barriers that are preventing businesses moving to peat free production.

It is well known that plant pathogens can move around on footwear, tools and machinery. Public gardens need visitors and volunteers to function, while agriculture often needs to share expensive machinery cooperatively, so how can the risk of disease spread in these

cases be reduced? Project PHC2021/01 is investigating current biosecurity practices related to these risks, as well as examining other sectors (e.g. animal health, invasive species management) and international examples, to potentially find novel solutions. The resulting review will clarify the current situation and provide a clear way forward for improvements in biosecurity.
In addition to this, both of these PHC funded projects will provide evidence that will be used to inform the Plant Health Management Standard (PHMS). Any business or organisation that handles plants can apply to become Plant Healthy Certified where they undergo a plant health audit (against the PHMS) to assess their plant biosecurity systems and improve them over time. The evidence and guidance produced by these projects will be included in the Standard, thereby improving biosecurity practices across sectors.

Image - Plant dump adjacent to water holding tank, credit: Sarah Green, Forest Research

You can find this blog and others penned for the Centre on the PHC website.

Scottish Government
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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