

Scotland's Plant Health Centre of Expertise – An update March 2020

Funded by the Scottish
Government through
RESAS

Ian Toth



18 Month Report

Our 16 commissioned projects are bringing sectors together



Vital Statistics



10
Organisations in PHC



82
Events and media articles



610
Twitter followers



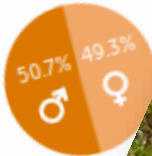
54
Non-PHC project partners



3807
Website users



410
Years of scientific experience

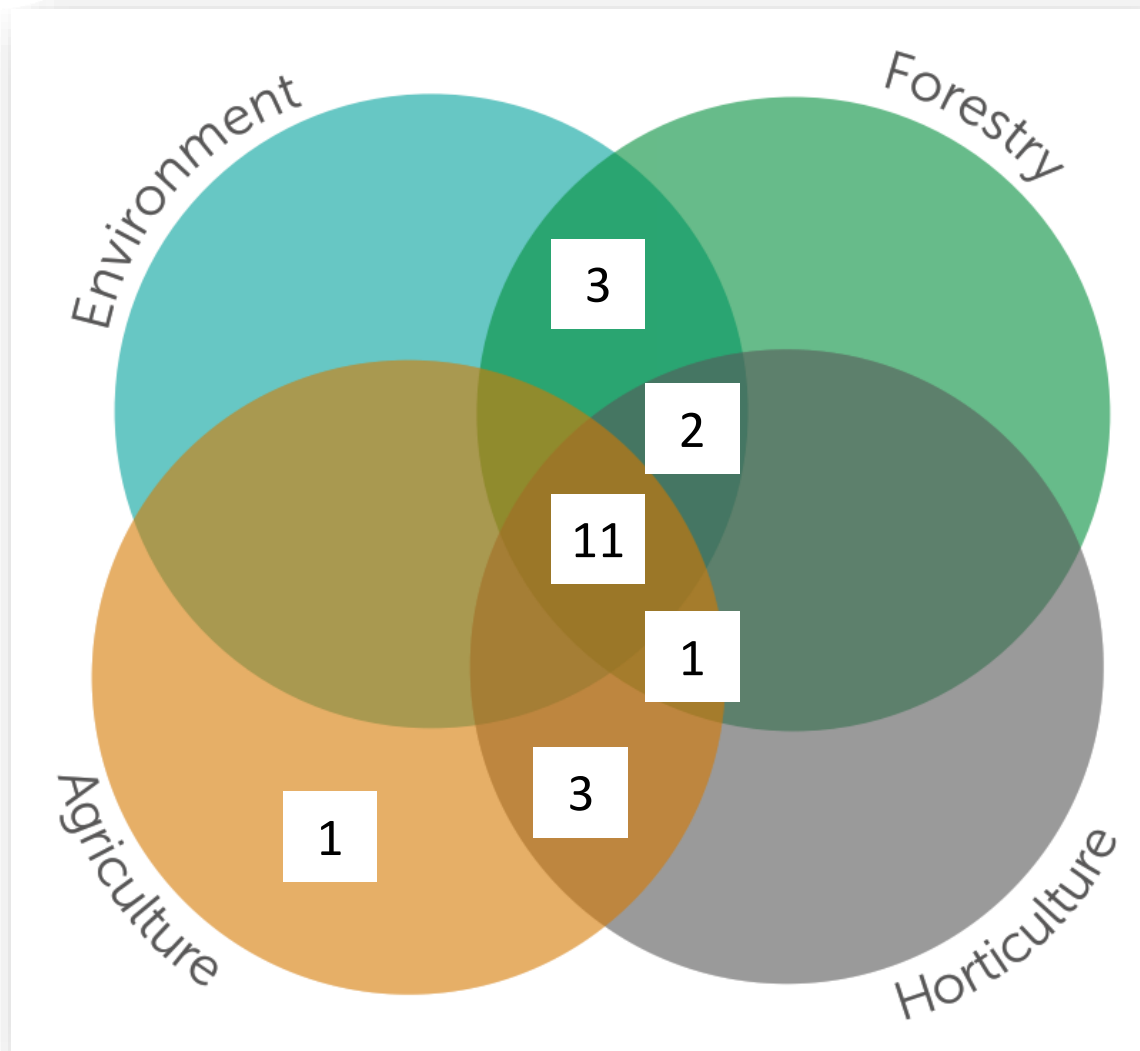


PHC and partners

Plant Health Centre 18 Month Review



Statistics - Projects



62

Non-PHC
project partners

Statistics – Knowledge Exchange



711

Twitter followers



6746

Website
users



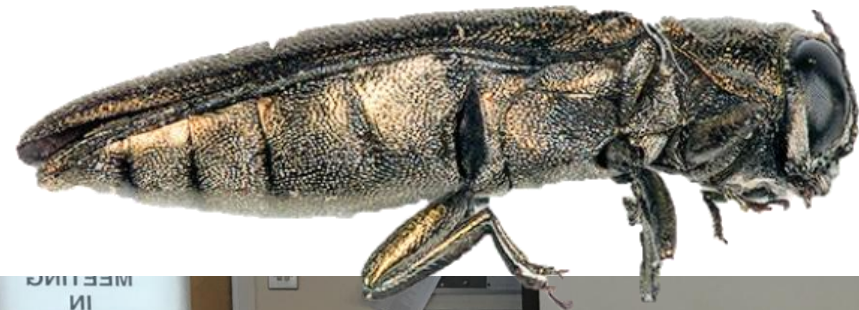
114

Events and
media articles

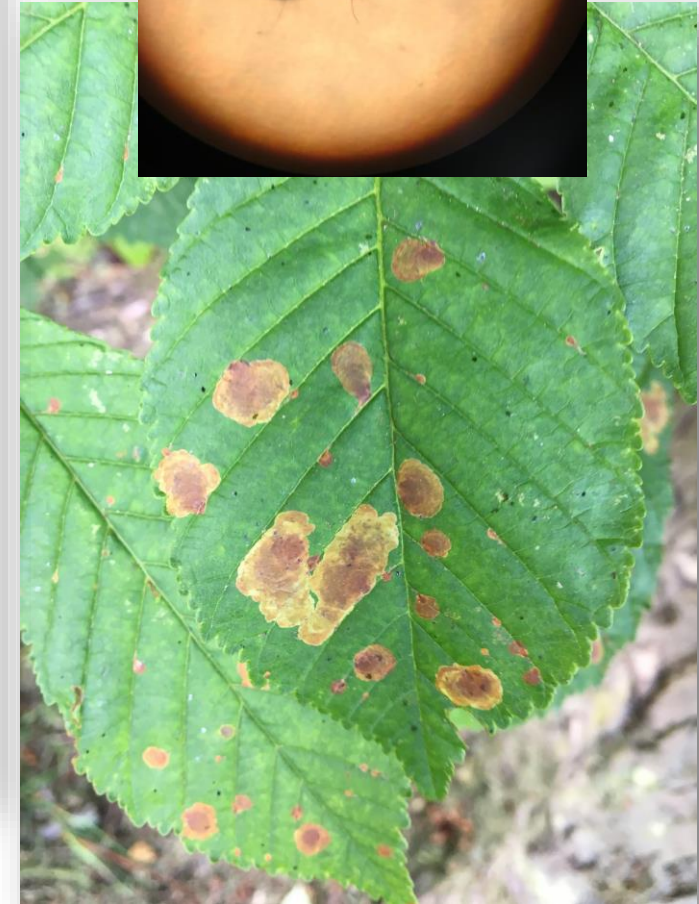
Impact through engagement



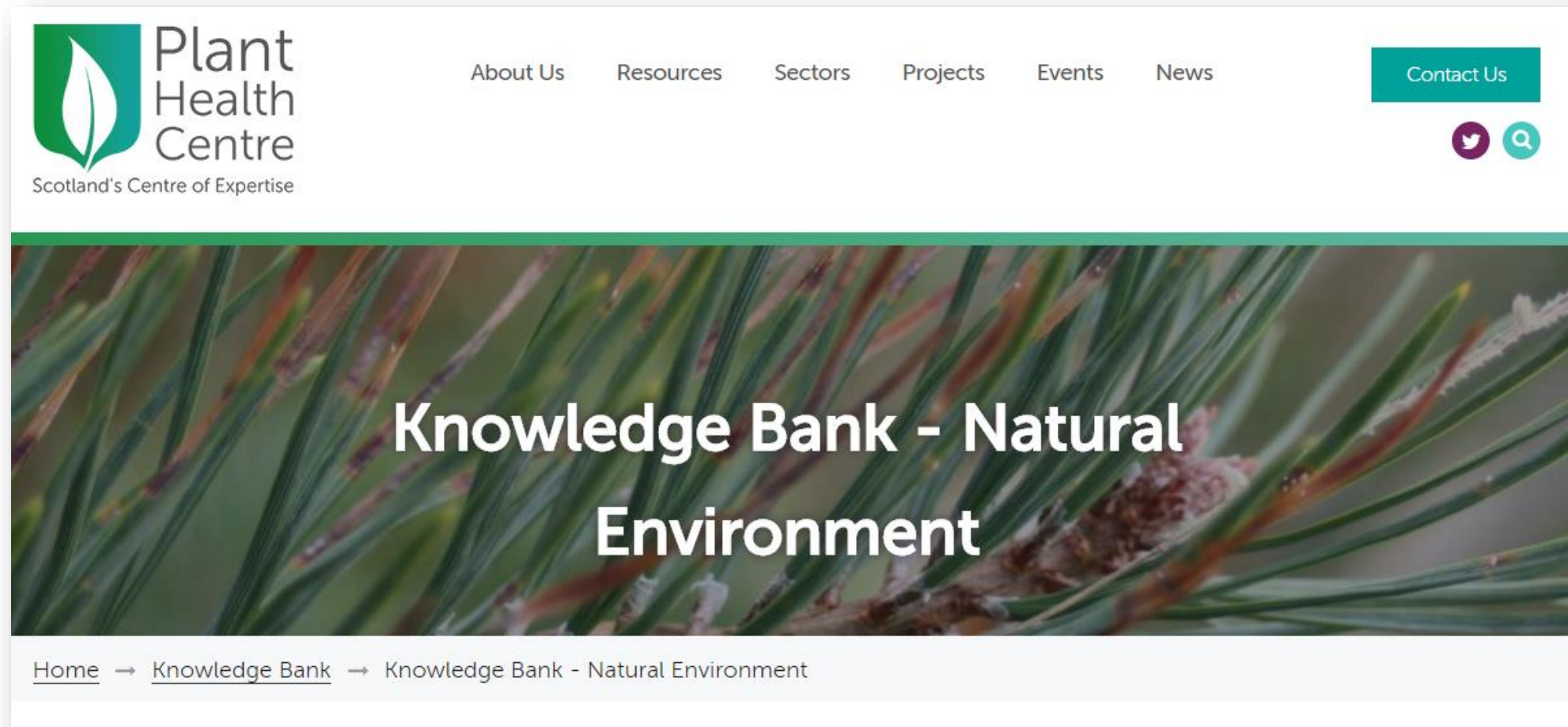
PREPSYS Workshop



Gatsby Plant Health Summer School



Knowledge Bank for Natural Environment



The screenshot shows the website header with the Plant Health Centre logo and tagline 'Scotland's Centre of Expertise'. The navigation menu includes 'About Us', 'Resources', 'Sectors', 'Projects', 'Events', 'News', and a 'Contact Us' button. Social media icons for Twitter and a search icon are also present. The main content area features a background image of pine needles with a white pest infestation, overlaid with the text 'Knowledge Bank - Natural Environment'. A breadcrumb trail at the bottom reads: 'Home → Knowledge Bank → Knowledge Bank - Natural Environment'.

Katherine Hayden, Joanne Taylor



Royal
Botanic Garden
Edinburgh

Threats, prevention and control

Canker of Conifers
(*Gremmeniella abietina*)



Petr Kapitola, Central Institute for Supervising and Testing in Agriculture, Bugwood.org, 0000111070

Bogs

Broadleaved, mixed and yew woodland

Coniferous woodland

Montane habitats

Pine (Pinus)

[CABI data sheet](#)

[CIFA fact sheet](#)

[Wilts and Vascular Diseases](#)

[View Threats](#)

Chestnut Blight
(*Cryphonectria parasitica*)



Ministry of Agriculture and Regional Development, Bugwood.org, 0004434276

Broadleaved, mixed and yew woodland

Castanea (Sweet Chestnut)

NOTIFIABLE ORGANISM

[CABI data sheet](#)

[Forest Research fact page](#)

[Woodland Trust fact page](#)

[Observatree fact page](#)

[Notifiable Diseases](#)

Citrus Longhorn Beetle
(*Anoplophora chinensis*)



Art Wagner, USDA - APHIS, Bugwood.org, 0001748370

Bogs
Boundary and linear features

Bracken

Broadleaved, mixed and yew woodland

Acer (Maple, Sycamore)

Aesculus (Horse Chestnut)

Alnus (Alder)

Betula (Birch)

Carpinus (Hornbeam)

NOTIFIABLE ORGANISM

[DEFRA fact sheet](#)

[NRW fact page](#)

[NNS fact page](#)

[Observatree fact page](#)

[OPAL fact page](#)

[Notifiable Diseases](#)

Prevention – Biosecurity



An ounce of prevention is worth a pound of cure. Good biosecurity practice prevents the arrival and spread of disease-causing organisms, and is essential for safeguarding the health of plants in propagation and natural systems.

[Read More](#)

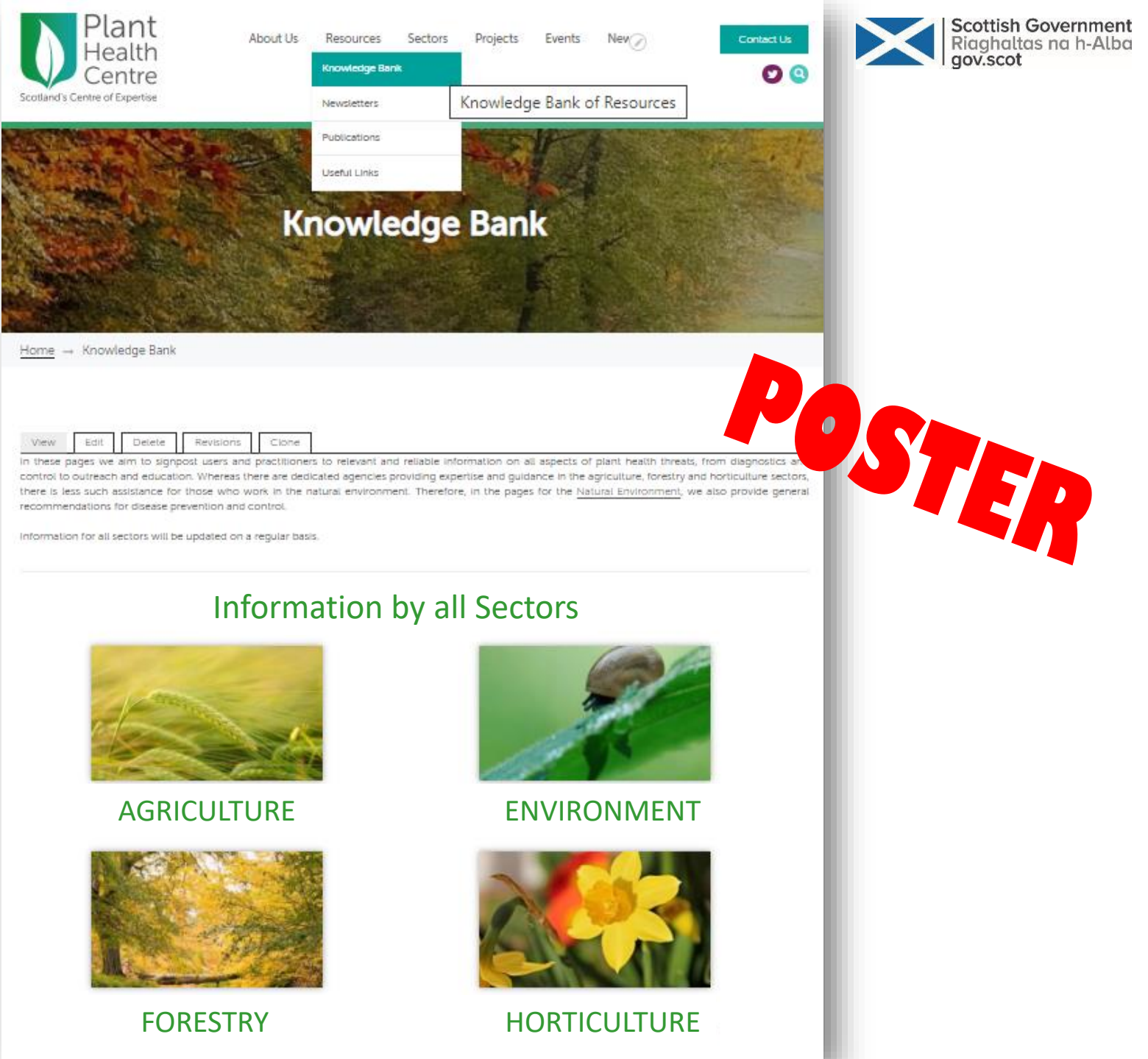
Control



What to do when disease strikes? We outline advice suitable for the natural environment for treatment and control of different categories of plant diseases.





[Read More](#)

A Knowledge Bank for all sectors



The screenshot shows the Plant Health Centre website's Knowledge Bank page. At the top, there is a navigation menu with links for 'About Us', 'Resources', 'Sectors', 'Projects', 'Events', and 'New'. A 'Contact Us' button is also present. The 'Knowledge Bank' menu item is highlighted, and a dropdown menu is open, showing options for 'Newsletters', 'Publications', and 'Useful Links'. The 'Knowledge Bank of Resources' link is highlighted in the dropdown. The main header features a large image of autumn foliage with the text 'Knowledge Bank' overlaid. Below the header, there is a breadcrumb trail: 'Home → Knowledge Bank'. A toolbar contains buttons for 'View', 'Edit', 'Delete', 'Revisions', and 'Clone'. The main text states: 'In these pages we aim to signpost users and practitioners to relevant and reliable information on all aspects of plant health threats, from diagnostics and control to outreach and education. Whereas there are dedicated agencies providing expertise and guidance in the agriculture, forestry and horticulture sectors, there is less such assistance for those who work in the natural environment. Therefore, in the pages for the Natural Environment, we also provide general recommendations for disease prevention and control. Information for all sectors will be updated on a regular basis.'

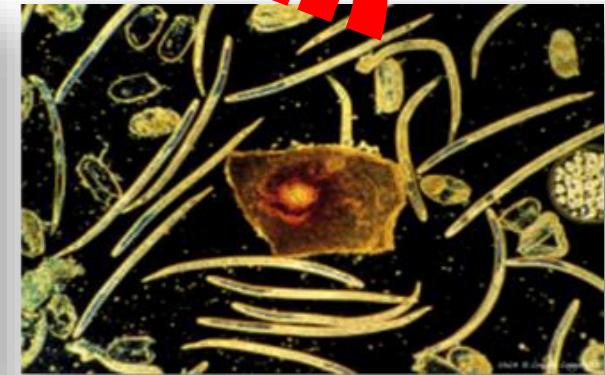
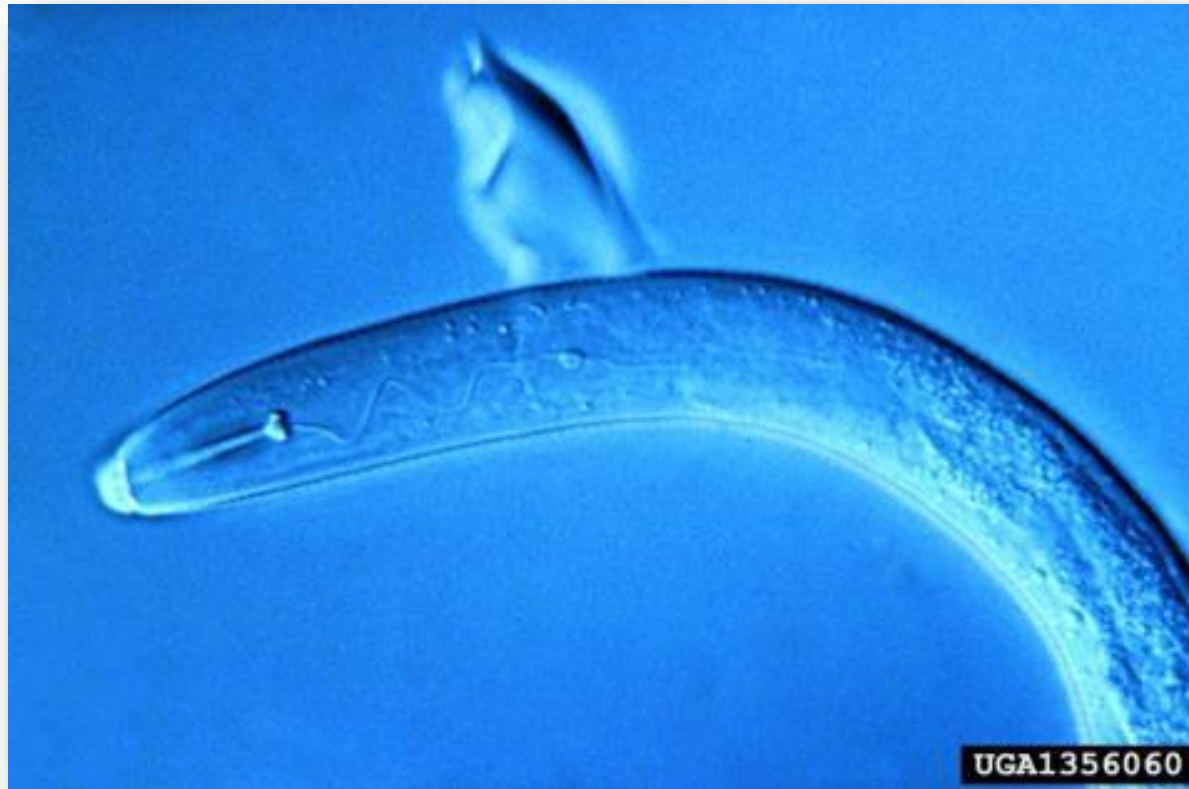
Information by all Sectors

- 
AGRICULTURE
- 
ENVIRONMENT
- 
FORESTRY
- 
HORTICULTURE

POSTER

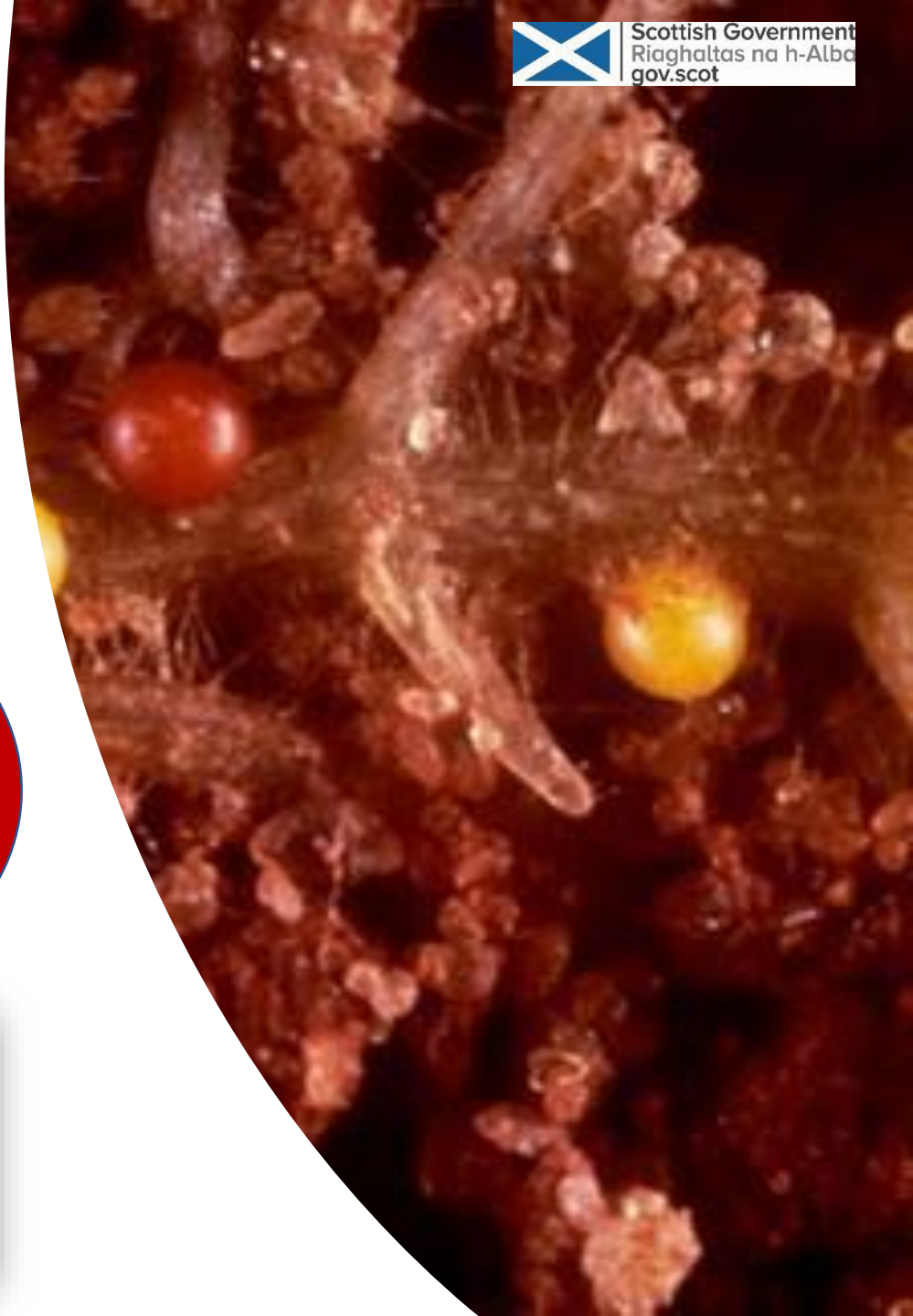
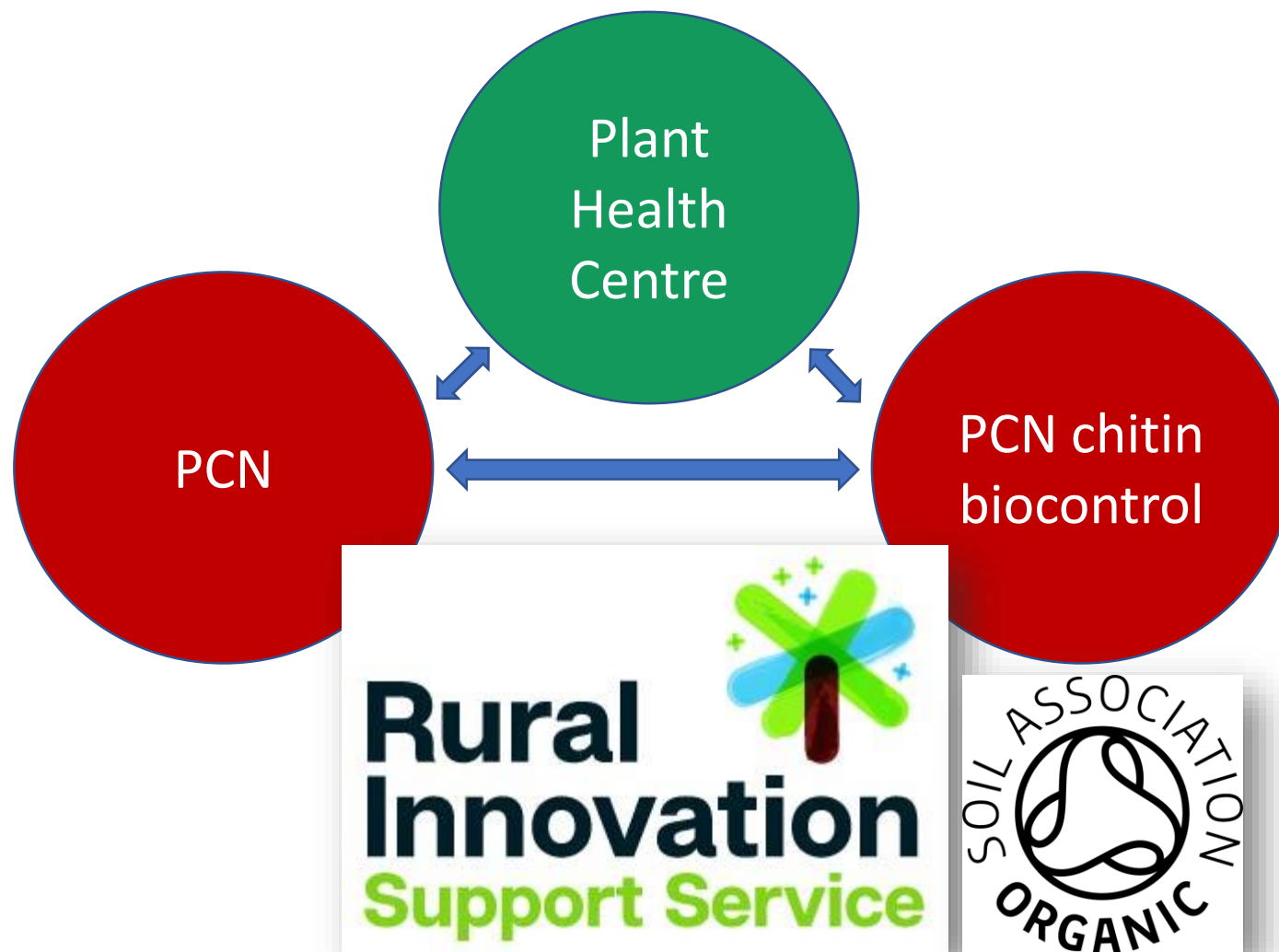
The Future Threat of PCN

POSTER



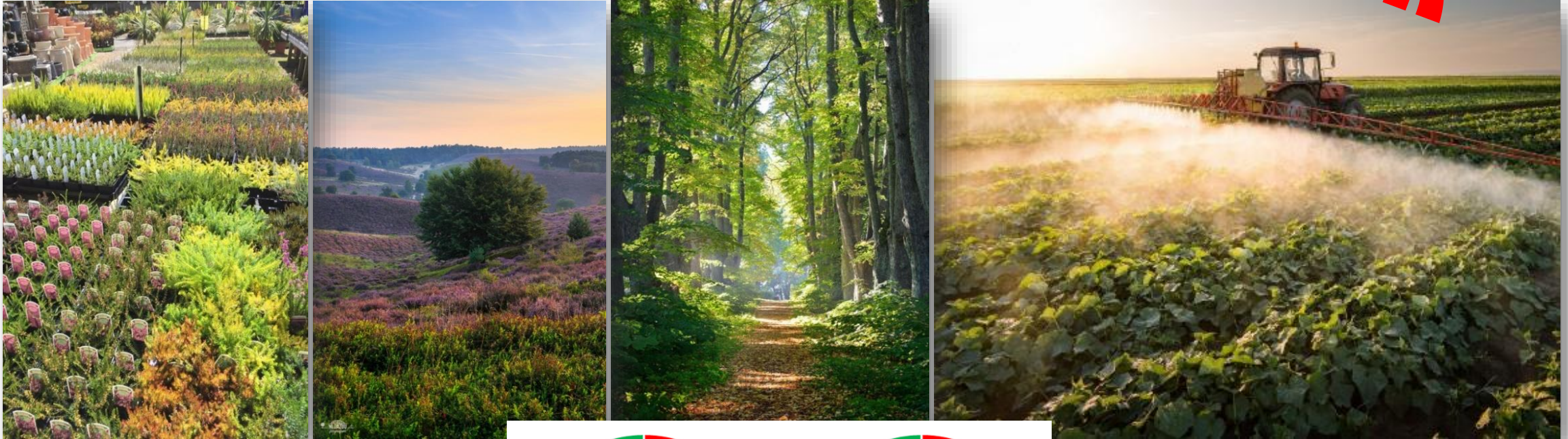
Vivian Blok, Jon Pickup, Kim Davie, Helen Kettle, Adrian Roberts,
Laure Kuhfuss, Adam Kleczkowski, Beth McDougall

Impact through engagement

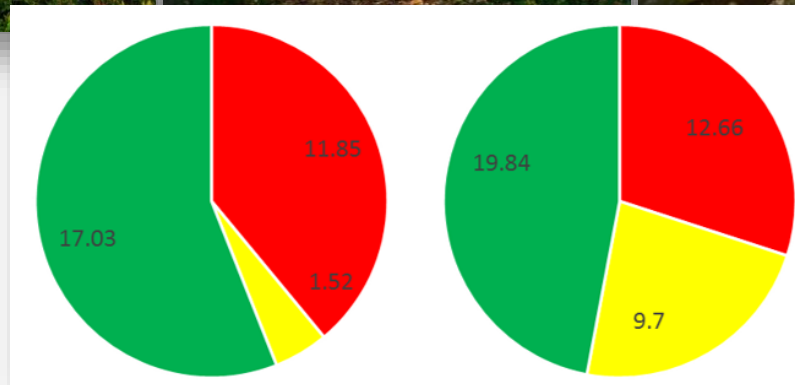
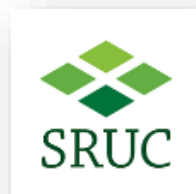


Pesticide withdrawals

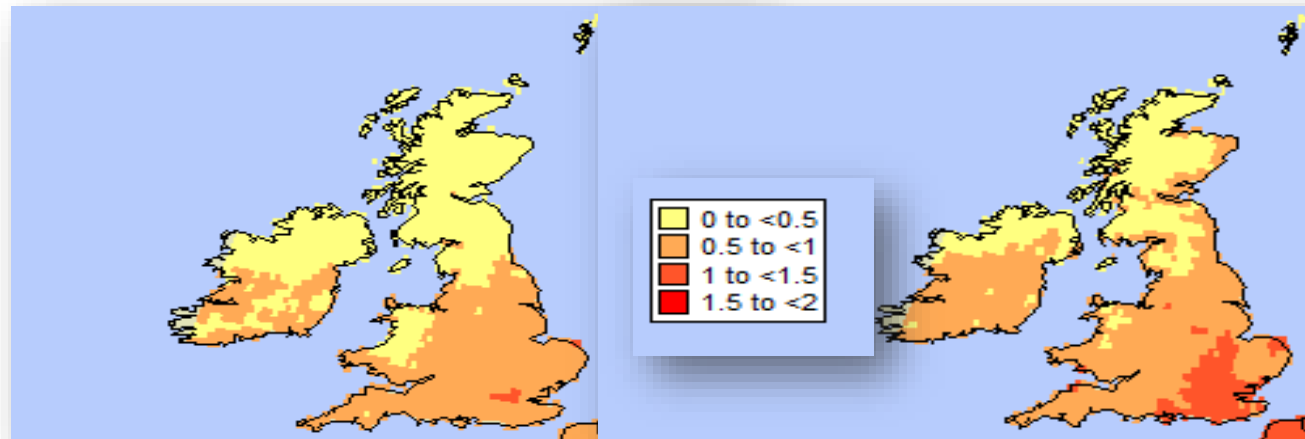
POSTER



Andy Evans



Brown Marmorated Stink Bug



Andy Evans, Alison Dolan, Gaynor Malloch, Carolyn Mitchell, Ailsa Smith Yvonne Arnsdorf, Alistair Hamilton



Phytophthora diversity - metabarcoding

POSTER



Carolyn Riddell, Sarah Green, Debbie Frederickson-Matika, Peter Cock, Pete Hedley

Phytophthora ramorum – spore transfer

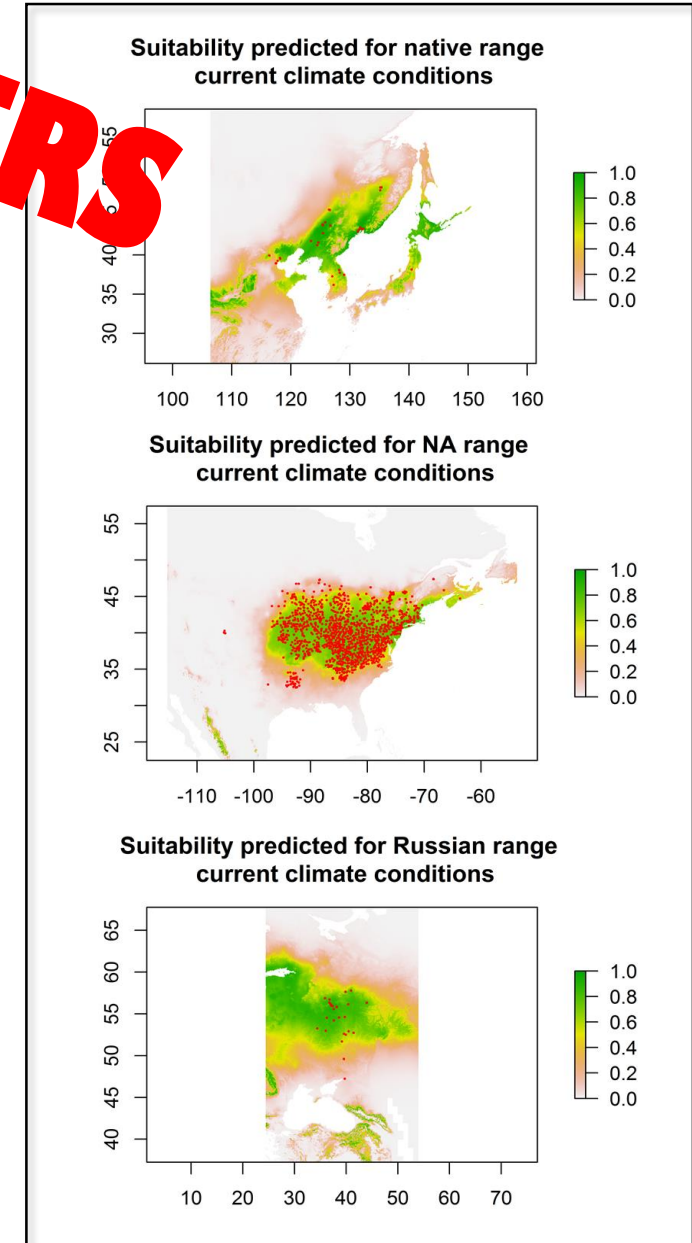
POSTER



April Armstrong, Sarah Green, Carolyn Riddell

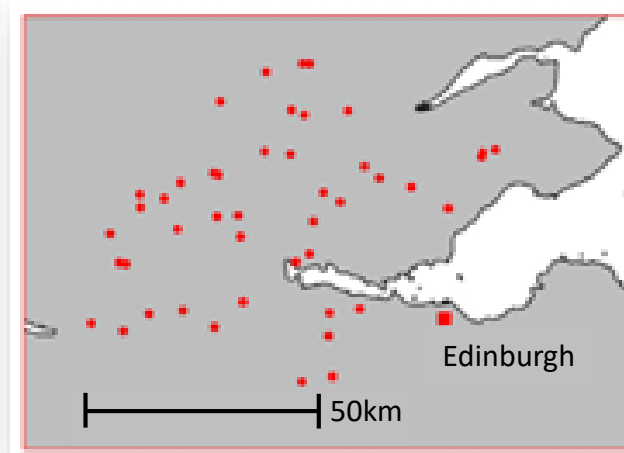
Modelling Framework for invasive pests

POSTERS



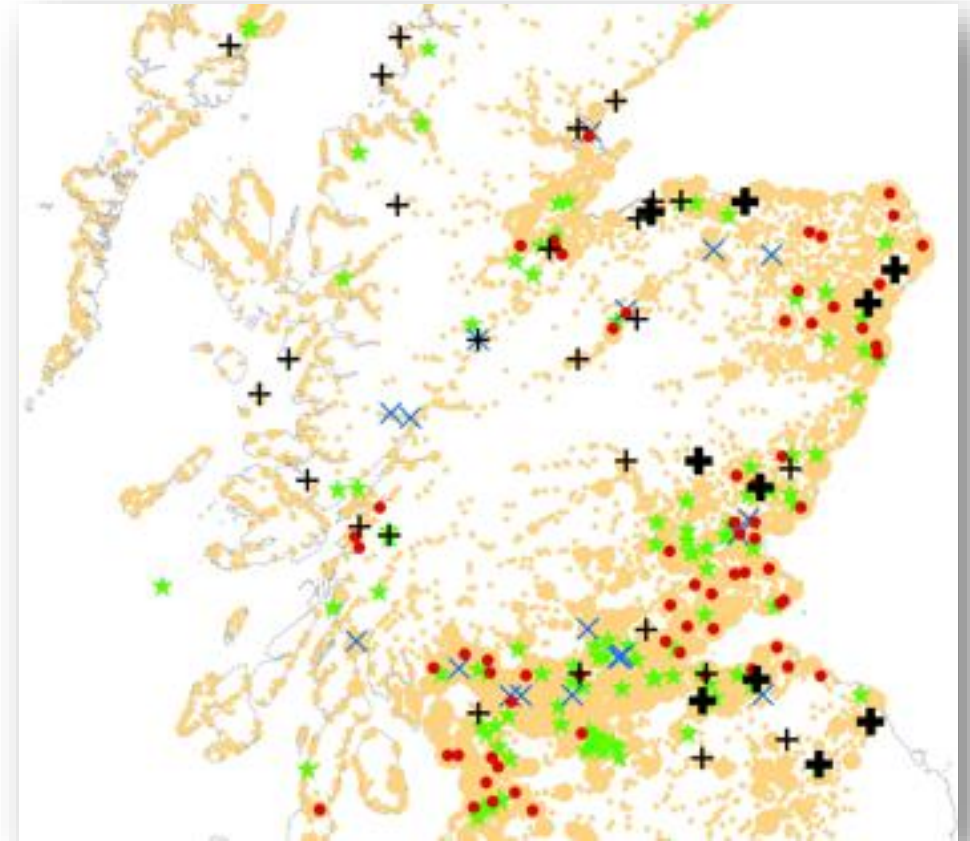
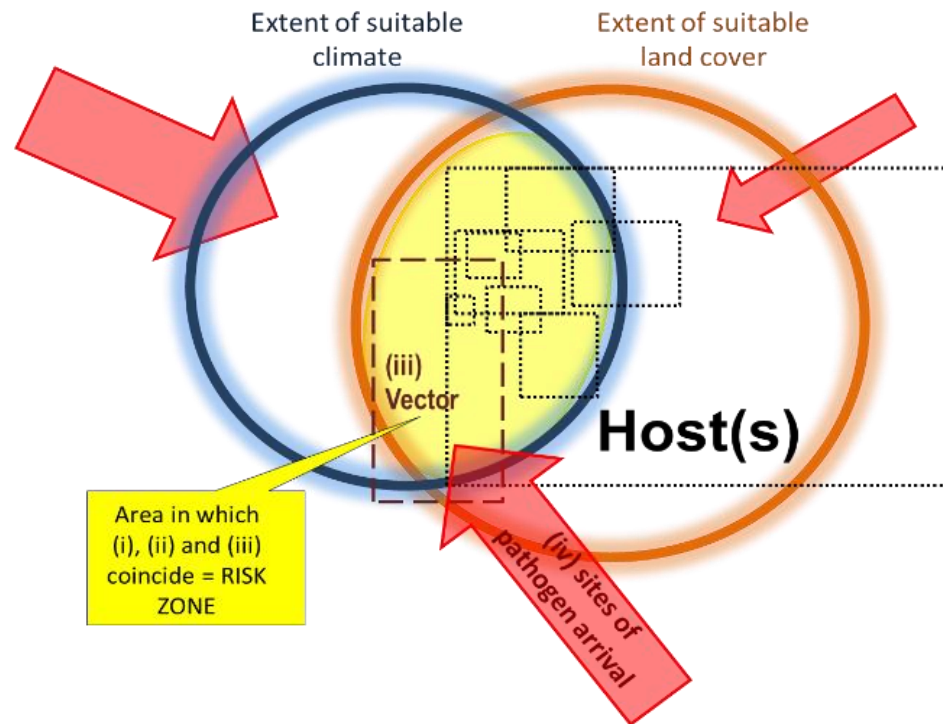
Vincent Kenan, Adam Kleczkowski, Glenn Marion

Xylella - Abundance and detection

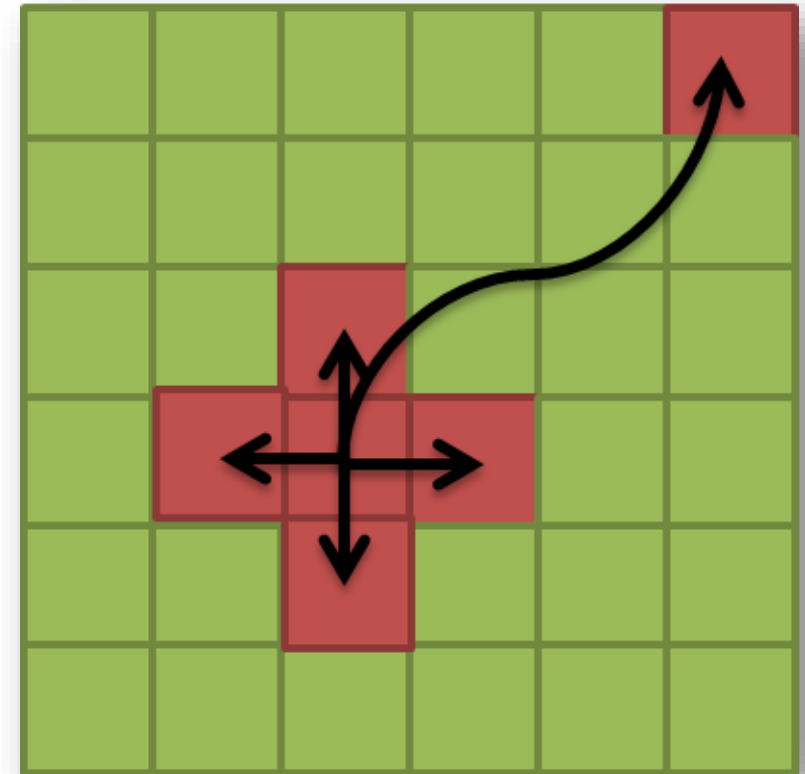
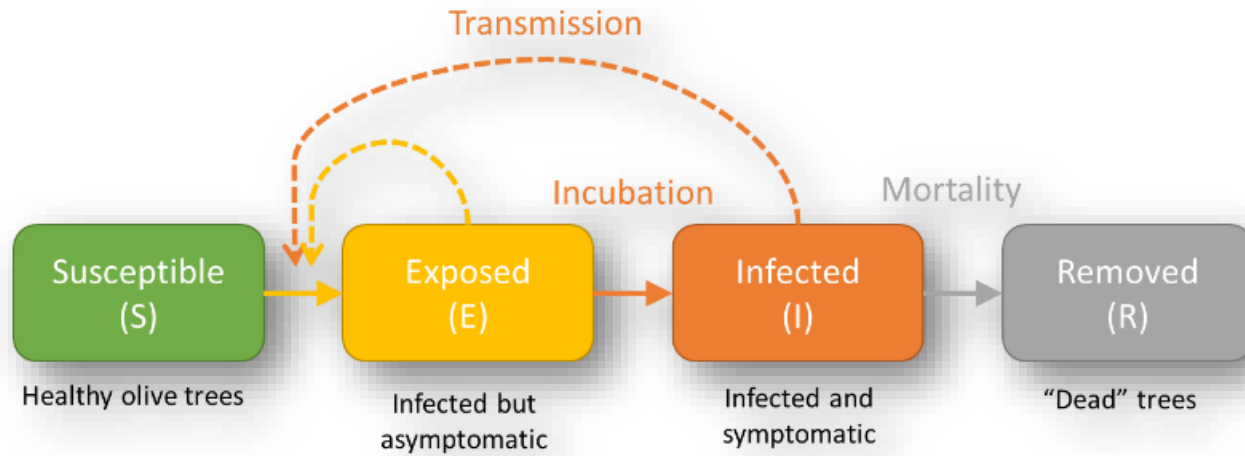


Elisa Fuentes-Montemayor, Kirsty Park, Matthew Guy, Katherine Lester, Stuart A'Hara, Joan Cottrell

Xylella - Risk mapping



Xylella - Modelling surveillance



Steven White, James Bullock,
Stephen Cavers, Daniel Chapman

Knowledge networks - *Xylella*



Samantha
Broadmeadow



Kevin Watts



Joan Cottrell



Steven White



Stephen Cavers



Kirsty Park



Dan Chapman

POSTER



Katherine
Leicester

Knowledge networks - *Xylella*

Nicola Spence
Defra CPHO



APHA



Animal &
Plant Health
Agency

Multi-funder
Bacterial Plant Diseases



BRIGIT



UK Research
and Innovation



Department
for Environment
Food & Rural Affairs



Department of
Agriculture, Environment
and Rural Affairs



Scottish Government
Riaghaltas na h-Alba
gov.scot



Food
Standards
Agency



Public Health
England



Forestry Commission



Government
Office for Science



Llywodraeth Cymru
Welsh Government



Department
for International
Development



Department for
Business, Energy
& Industrial Strategy

UK Science Partnership for Animal and Plant Health





INTERNATIONAL YEAR OF
PLANT HEALTH

2020



IYPH 2020 - Projects

PHC workshop

Key principles to minimise plant health risks in Scotland

Key principles to minimise plant health risks in Scotland
Plant pests and diseases have the potential to cause major economic, environmental and social costs. Risks to plant health in Scotland are rising due to increased global movements of plants and soil, coupled with environmental change allowing novel pests and diseases to establish. Action is needed by many to address these threats. These key principles should be followed -:

A. SOURCE PLANTS WITH CARE
Human movement of plants is an important pathway for spreading pests and diseases.

- Ensure all plant movements are legally compliant
- Take particular care with international movement and, where possible, limit importing plants
- Seek locally sourced and well-grown plants (e.g. certification schemes)
- and quality assured suppliers (e.g. certification schemes)
- Be vigilant when purchasing species known to be vectors of serious pests and diseases
- Carefully match plants to location: stressed plants can be particularly susceptible

B. 'KEEP IT CLEAN'
Biosecurity best practice can reduce the spread and establishment of plant pests and diseases

- Plant movements should adhere to established quarantine and inspection protocols
- Follow good biosecurity practice in all operations to minimise the risk of moving pests and pathogens (e.g. via live plants or indirectly via material on or in machinery, vehicles, packaging and undertaking planting programmes (e.g. landscaping, habitat restoration, woodland creation))
- Assess and mitigate the risk of introducing or spreading disease into new areas when designing and

C. PLAN NOW FOR FUTURE CHALLENGES
Designing, modifying and managing systems to increase their resilience can reduce the impacts of pests and pathogens in future

- Maintain awareness of emerging potential threats, consider wider impacts of your choices, and adapt systems in the light of these
- Encourage diversity in agricultural, horticultural and forestry systems (including diversity of varieties, species, resistance types, site-rotation, age classes)
- Plan well ahead to ensure adequate locally-grown stocks of plants are available
- Adopt integrated pest management and facilitate the development of new and improved biocontrol methods
- Expand use of new technologies for detection and managing plant health threats

D. EMBED PLANT HEALTH IN POLICIES AND PRACTICES
Developing consistent practices, incentives, guidance and regulation can minimise the risk of outbreaks and their consequences

- Embed plant health principles into wider policy and resource management practices and ensure consistency of approach
- Align grant schemes to incentivise good plant health practices (e.g. adopt timelines which support local production of plants for landscaping projects)
- Explicitly include plant health and biosecurity as value criteria in the procurement process for major purchases of plant material (e.g. by recognising the costs of disease outbreaks)
- Support mechanisms promoting plant health (e.g. accreditation; 'Plant Healthy' initiatives)
- Ensure monitoring and surveillance are appropriately resourced and targeted

E. PROMOTE WIDESPREAD UNDERSTANDING AND AWARENESS OF PLANT HEALTH THREATS
Working together informed individuals and businesses can minimise threats to plant health

- Raise consumer and trade awareness of risks to plant health and the benefits of good biosecurity practice
- Encourage public awareness of pests and diseases, and what all can do to minimise risks
- Promote wide awareness of the value of Scotland's plants, the connectedness of actions and why plant health matters (e.g. value of natural environment, amenity, agriculture, forestry etc)

IYPH 2020 - Projects

Assessment of large-scale plant biosecurity risks to Scotland



Product Info Delivery

Our beautiful olive trees are 20 years old
Approx height 90-99cm (110-120cm)



IYPH 2020 Calendar of Events

POSTER



Promoting plant health in Scotland as part of the International Year of Plant Health 2020

K Pearson*, G Sadtler and O A'Hara. SASA, Roddinglaw Road, Edinburgh. *karen.pearson@sasa.gov.scot

Introduction
The Food and Agriculture Organisation of the United Nations has designated 2020 as the International Year of Plant Health (IYPH). Countries around the world are using the occasion to raise the profile of plant health, celebrate the benefits of healthy plants and promote ways that we can all help to safeguard our plants, environment and economy.

The Plant Health Service in Scotland
The Scottish Plant Health Service is made up of inspectors, scientists and policy officials who work across crops, forestry and the natural environment to safeguard our rural industries, environment and economy. Officials work closely with industry, to manage the health of our plants through surveillance, diagnostics and certification. Our inspectors operate at ports and borders as the first line in defence against quarantine organisms, supported by scientific testing and robust policies. Surveys for high risk plant health threats such as *Phytophthora ramorum*, potato cyst nematode and bacterial potato pathogens are conducted each year in Scotland, and our contingency plans are regularly tested to ensure that procedures remain appropriate and effective. The Scottish Government invests around £7 million per year in plant health research, which includes funding for Scotland's Plant Health Centre, to provide call-down scientific evidence to inform policy decisions across all plant health sectors.

IYPH activities
Scottish Government, in conjunction with the Plant Health Centre, is planning a range of activities throughout 2020 to promote IYPH. A key focus will be raising knowledge and understanding of plant health in children and young people based around the idea that "plants get sick too". We have a bug hunt trail touring sites around Scotland, and will promote our plant health message at Scottish science festivals. We will also work with schools to support curriculum activities that will endure beyond 2020. At the Royal Botanic Garden Edinburgh, throughout 2020, we are planning a range of activities throughout 2020 to promote IYPH biosecurity exhibition which should reach just under one million visitors, and other awareness-raising events that will endure beyond 2020. To engage industry stakeholders, we are holding a reception in the Scottish Parliament on the 22nd April, and the annual Scottish Plant Health Conference will be held on 12th March, in association with our collaborative partners. We are also working closely with the UK Plant Health Service and stakeholders from the agriculture, forestry, horticulture and natural environment sectors to ensure a coherent programme of activities across the UK (further details are on our website). **What can you do?** Help us to promote the importance of protecting our plants to stakeholders across industry, science and the public. The greatest impact will result from collaborative working, so together we can better help to maintain the our food, environment and rural industries for future generations. Further details can be found at: www.sasa.gov.uk/iypth and www.fao.org/plant-health-2020.

Report Inspectors at Glasgow Airport.
Potato tuber inspection, Forfar.
Microscopic examination of a soil extract for Potato Cyst Nematode (PCN).
Plant Health laboratory work.

Come and join our Alien Bug Hunt!
Follow the signs and collect!
Alien Bug Hunt Trail

Winter demonstration model of the traditional Orlan Laganan bread. This type of flat cake is traditionally made from a wide range of cereals and grains in the UK. It can have various fillings and is a popular product in the UK.

Karen Pearson
Plant Health Quality and Engagement Manager
SASA, Roddinglaw Road, Forfar, Scotland
T: +44 (0)1337 544 8884
E: karen.pearson@sasa.gov.scot
W: www.sasa.gov.scot

Working with other Centres

CREW CENTRE OF
EXPERTISE
FOR WATERS

climateXchange

Scotland's centre of expertise connecting
climate change research and policy

epic
Centre of Expertise on
Animal Disease Outbreaks

SEFARI

COP 26 GLASGOW

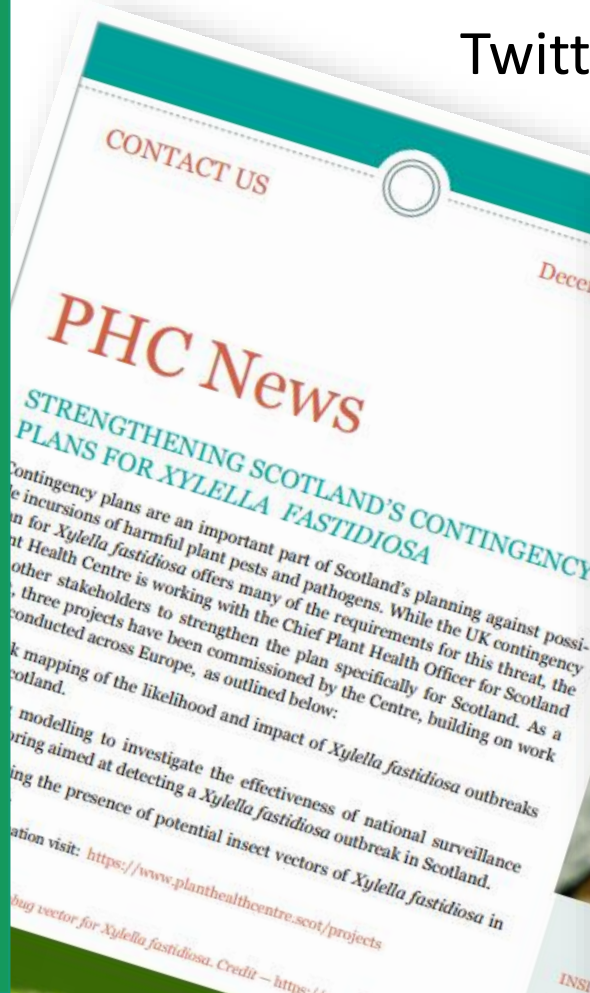


UNITED NATIONS
CLIMATE CHANGE
CONFERENCE

NOVEMBER 2020

Web site and Twitter

- Projects are featured on our web site, Twitter and Newsletters



Further information

For Chief Plant Health Officer for Scotland

See: www.sasa.gov.uk/content/cphos

Follow: @plantchiefscot

For the Plant Health Centre

See: www.planthealthcentre.scot

Contact: info@planthealthcentre.scot

Follow: @PlantHealthScot