



The Scottish Plant Health Strategy

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MINISTERIAL FOREWORD



I am delighted to announce the publication of the Scottish Plant Health Strategy. I very much recognise that plant health is at the heart of Scotland's thriving natural environment, our rural economy and our wellbeing. However there are increasing pest and disease threats to our plant health, particularly through increased globalisation of trade and other factors such as climate change. It is therefore timely for Scotland to publish and implement this Strategy.

The aim of the Strategy is to safeguard agriculture, horticulture, forestry and the wider environment from plant pests over the next five years, and beyond. This will require an integrated approach, to ensure effective collaboration between all interested parties.

The Strategy builds upon the work already undertaken by the Scottish Plant Health Service, but recognises that Government alone cannot tackle current and future plant health challenges. The Strategy therefore has a focus on working in partnership with others to build and strengthen relationships. It sets out how together we can protect crops, trees and other plants from new and existing pests and diseases.

Scottish plant health concerns and priorities will be at the heart of our Strategy but of course plant pests do not respect borders. This is recognised in the Strategy which builds on the plans set out in the GB Plant Biosecurity Strategy published in 2014. It also covers our EU and International plant health ambitions and commitments.

I am grateful to the wide range of stakeholders that have contributed to the development of the Scottish Plant Health Strategy. The partnerships that have been formed during this activity and those that will form as a result of delivering the Strategy will have long term benefits for plant health in Scotland.

A handwritten signature in black ink, appearing to read 'Aileen McLeod'. The signature is fluid and cursive.

Dr Aileen McLeod

Minister for Environment, Climate Change and Land Reform

1. SCOPE

This strategy sets out the Scottish Government (SG)'s¹ approach to the protection of the health of plants (agricultural & horticultural crops, plants in parks and gardens, forestry and the natural environment) in Scotland.

The strategy focuses on risks associated with plant pests² and links with other work on the health of plants such as agronomy and soil health. It does not address animal health, land use or damage by vertebrate pests or other invasive species, which are covered by different national and European legislation.

The strategy covers the SG's role and how stakeholders (public bodies, industry, NGOs, academia, landowners and the general public) will work with government to protect the health of plants.

The SG is responsible for implementation of plant health requirements in Scotland. We work with the other parts of the UK Plant Health Service³ to ensure a coordinated approach across the UK. The UK Plant Health Service works with international bodies, other European and EU Member States and the European Commission to agree plant health rules and coordinate their implementation.

The strategy focusses on Scottish plant health priorities and risks and has been developed using the framework provided in the Plant Biosecurity Strategy for Great Britain⁴ (the GB strategy). Actions contained in the strategy are summarised in Appendix 1.

The strategy takes a risk-based approach and actions will be prioritised together with relevant time scales. The focus is both on current risks and preparing for longer term risks. It is based on available evidence and where evidence is not readily available it will be sought or commissioned.

Where reference is made to contingency planning, plant health plans will be consistent with the SG's approach to emergency planning and response⁵.

The strategy will be reviewed after five years. Some aspects are likely to be reviewed more frequently whereas others will need a long term approach.

¹ Scottish Government includes Forestry Commission Scotland

² Subsequently referred to as 'pests' (includes injurious insects, nematodes, fungi, bacteria, phytoplasmas and viruses)

³ The UK Plant Health Service comprises Defra (supported by Fera), together with the Forestry Commission and the devolved administrations in Scotland, Wales and Northern Ireland.

⁴ <https://www.gov.uk/government/publications/plant-biosecurity-strategy-for-great-britain>

⁵ <http://www.readyscotland.org/ready-government/resilience-division/>

2. PURPOSE

The aim of the strategy is to:

- demonstrate the importance of safeguarding Scottish plant health to protect and enhance Scotland's economy and natural environment;
- indicate how Scotland will take forward the GB strategy;
- ensure SG and stakeholders work together to protect plant health in Scotland.

3. INTRODUCTION

3.1 Safeguarding plant health in Scotland

Plant health is at the heart of Scotland's thriving rural economy and natural environment. There are increasing risks to plant health from the globalisation of trade, and the consequent threat of introduction of new pests and invasive non-native species, as well as the additional pressure of climate change.

This strategy aims to protect a £1.8 billion⁶ sector of the Scottish rural economy, which includes agriculture, horticulture, parks and gardens, forestry and the natural environment. Plant health also underpins the Scottish £14 billion food and drink sector⁷, which includes £5.1 billion food and drink exports⁸, and the UK's food production (e.g. the £4 billion UK potato industry⁹).

Protection of plant health is also vital for the forestry sector. In Scotland, forests and woodlands cover 1.4 million ha, which is approximately 18% of our land area and 45% of the UK's forest area. The timber harvest is 7.5 million tonnes per year. The gross value added of the forest industries in Scotland including forestry-related tourism is £954 million per annum¹⁰.

The 2020 Challenge for Scotland's Biodiversity¹¹ highlights the need to protect biodiversity. This states that environmental benefits include contributing over £21.5 billion annually to the Scottish economy and the £43 million per year insect pollination services.

Safeguarding plant health is therefore essential for achieving the following SG National Outcomes:

- We realise our full economic potential with more and better employment opportunities for our people.
- We live in a Scotland that is the most attractive place for doing business in Europe.
- We value and enjoy our built and natural environment and protect it and enhance it for future generations.
- We live longer, healthier lives.
- We reduce the local and global environmental impact of our consumption and production.
- Our public services are high quality, continually improving, efficient and responsive to local people's needs.

Safeguarding plant health therefore:

- underpins the development of the economic potential of the Scottish agriculture, horticulture, forestry, rural land use and food and drink sectors;

⁶ 2015 figures (farm incomes (Total income from farming (TIFF), published Jan. 2016) plus gross value added figures for Scottish forestry)

⁷ From 'The Future of Scottish Agriculture' discussion document (<http://www.gov.scot/Resource/0047/00479616.pdf>)

⁸ 2014 figures (<http://news.scotland.gov.uk/News/New-record-for-Scottish-food-exports-1933.aspx>)

⁹ £4.048 billion, UK Potato retail report, December 2014

(http://www.potato.org.uk/sites/default/files/publication_upload/PCL%20Retail%20Report%20December%202014%20P11.pdf)

¹⁰ <http://scotland.forestry.gov.uk/supporting/forest-industries/economic-contribution-report>

¹¹ <http://www.gov.scot/Resource/0042/00425276.pdf>

- enhances production efficiency;
- protects the natural environment, including amenity sites and gardens; and
- maintains wholesome environments for rest and relaxation.

Implementation of the strategy will also help to protect Scotland's economic and environmental resources and support initiatives to develop new and maintain existing markets for Scottish plants and plant products.

3.2 Strategic context

The SG works within the framework of EU plant health law¹² and international plant health agreements¹³. Protecting the health of plants is important to many strategic targets and this strategy complements the following Scottish and GB strategies:

- The Scottish Forestry Strategy 2006¹⁴, a framework for taking forestry forward through the first half of this century and beyond.
- Science and Innovation Strategy for Forestry in Great Britain¹⁵ (see section 5.6).
- The Invasive Non-Native Species Framework Strategy for Great Britain, originally published in 2008 and updated in 2015¹⁶, is intended to provide a strategic framework within which the actions of government departments, their related bodies and key stakeholders can be better co-ordinated.
- The 2020 Challenge for Scottish Biodiversity¹¹, a strategy to protect and restore Scotland's biodiversity. This was published in 2013 and supplemented the 2004 Scottish Biodiversity Strategy.
- The Scottish Climate Change Adaptation Programme¹⁷, launched in 2014, considered the most important impacts of the changing climate on the natural environment and sets out the SG's related objectives associated with the identified climate risks. Part 2 of the Programme considers a number of issues related to pests and diseases in the natural environment.
- Animal and Plant Health in the UK: building our science capability¹⁸, a strategy to set the strategic direction and priorities for UK animal and plant health science and to ensure the UK has the science capability, in the provision of research, evidence and laboratory services, to underpin best practice management over the next 10-15 years.

The strategy is fully compatible with the SG's objectives in Scotland's Economic Strategy¹⁹ of protecting and enhancing our natural capital. This is fundamental to a healthy and resilient economy and supports the agriculture, horticulture, forestry, tourism and renewables sectors.

Plant health must take into account potential impacts of climate change and should be a consideration in the discussion on the Future of Scottish Agriculture that was

¹² http://ec.europa.eu/food/plant/plant_health_biosecurity/legislation/index_en.htm

¹³ <https://www.ippc.int/en/>

¹⁴ <http://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/forestry-strategy>. This is currently being reviewed and publication is due in March 2017.

¹⁵ www.forestry.gov.uk/research

¹⁶ <http://www.nonnativespecies.org/index.cfm?sectionid=55>

¹⁷ <http://www.gov.scot/Publications/2014/05/4669/0>

¹⁸ <https://www.gov.uk/government/publications/animal-and-plant-health-in-the-uk-building-our-science-capability>

¹⁹ <http://www.gov.scot/Publications/2015/03/5984>

launched in June 2015²⁰. The strategy also underpins Scotland's food and drink policy²¹.

3.3 Implementing the Plant Biosecurity Strategy for Great Britain⁴

The GB strategy was published on 30 April 2014 and provides a high level overview of the activity that Defra with the Forestry Commission and the Devolved Administrations in Scotland and Wales are undertaking to improve plant biosecurity. Northern Ireland is developing a similar strategy with the Republic of Ireland.

The shared vision for plant biosecurity to 2020 *“to protect plants from pests that have been identified as priorities for action, and to build awareness of the risks from pests, knowledge of how to reduce those risks and to introduce a system of management that will incentivise risk reduction”* applies equally to this Scottish strategy.

The GB strategy sets out plans to provide robust protection for crops, trees and other plants building upon and enhancing the work already undertaken by the Plant Health Services across GB. It provides the overarching principles and underpinning requirements for effective actions, together with a broad overview of the work to be undertaken before import, at the border and inland (the biosecurity continuum) (Figure 1). The GB strategy is flexible to ensure the systems are dynamic and constantly evolving to keep pace with changing threats.

3.4 Achievements since April 2014

In Scotland, progress has been made since the publication of the GB strategy. Some examples of the actions to implement it are provided in Appendix 2.

3.5 Stakeholders and SG working together

The SG's role is to prevent entry, establishment and spread of quarantine pests²² and potential quarantine pests. Where outbreaks of such pests occur, we aim to eradicate them, or contain them if necessary. We along with relevant sectors also ensure that the incidence of regulated non-quarantine pests²³ is maintained within the required tolerance levels on planting material (such as for seed potato classification and fruit plant marketing schemes). Stakeholders already take measures to control crop and horticultural pests and to minimise the build-up of pests in forests and the wider environment.

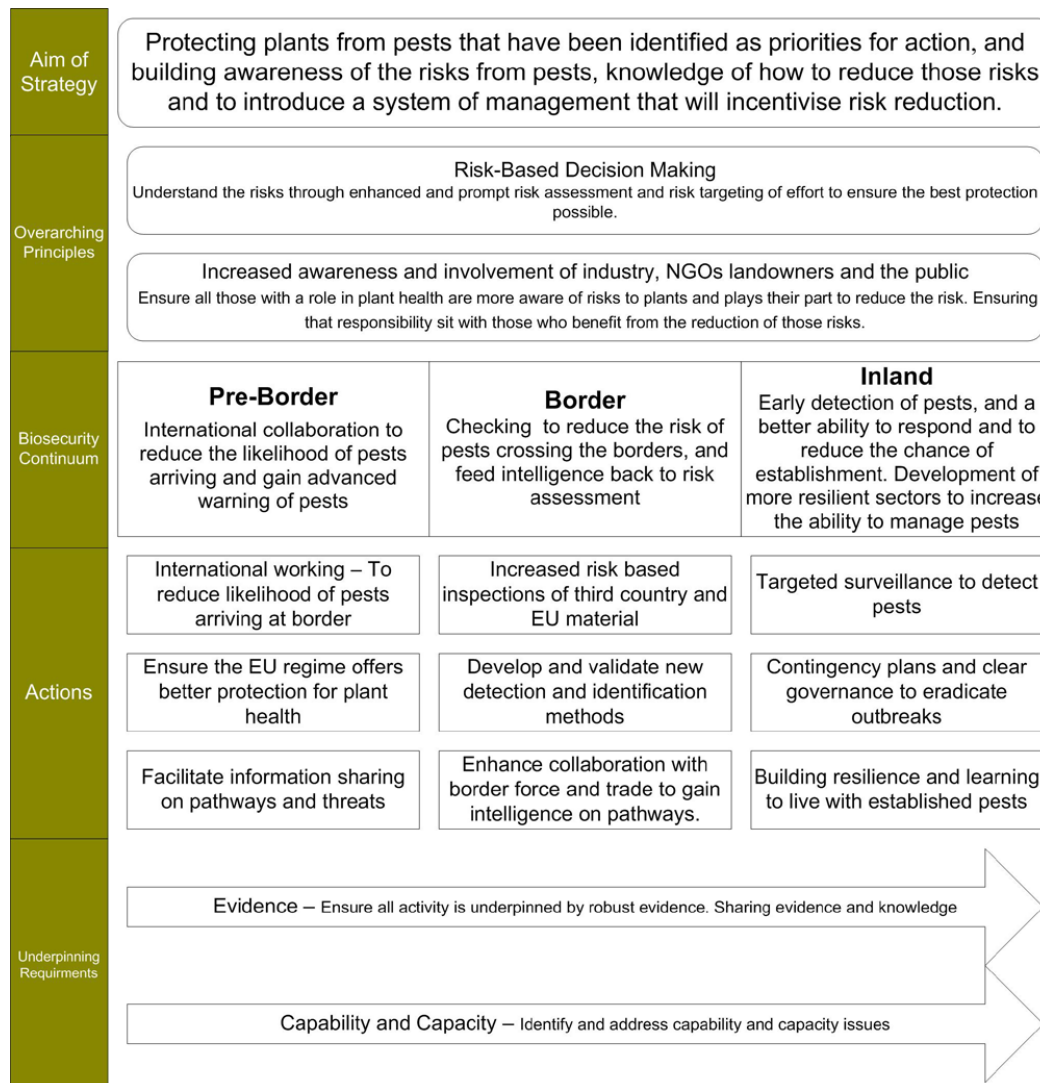
²⁰ <http://www.gov.scot/Resource/0047/00479616.pdf>

²¹ <http://www.gov.scot/Topics/Business-Industry/Food-Industry/national-strategy>

²² Definition: a pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled (International Plant Protection Convention (IPPC), 1997)

²³ Definition: a non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party (IPPC, 1997)

Figure 1: Framework for government action on plant pests and biosecurity continuum (from the GB Plant Biosecurity Strategy)



This Scottish Plant Health Strategy focuses on actions to meet our obligations regarding regulated pests and to address risks from new and emerging plant pests. It describes how the SG will work in partnership with Scottish stakeholders. It has been developed in consultation with stakeholders and is based on the fact that safeguarding plant health is a shared responsibility.

The actions in this strategy reflect commitments made by stakeholders to play their part in safeguarding the health of plants in Scotland.

Over the period of this strategy some plant health controls will be strengthened as a result of the implementation of the forthcoming EU Regulations on Protective Measures against Pests of Plants and on Official Controls. SG and stakeholders will work together to ensure measures are put in place and to implement these measures effectively.

4. KEY PRINCIPLES

4.1 Partnership working

This strategy is not simply about what government will do to improve plant biosecurity; partnership working is essential for a successful implementation. Pest risks should be considered by all involved, including traders in plant products; individuals, businesses and organisations importing, growing, moving (e.g. hauliers) and using plants in agriculture, horticulture, forestry and gardens; and those maintaining, enhancing or protecting Scotland's environment.

The Scottish Plant Health Service

The Scottish Plant Health Service operates within two SG Directorates: Agriculture Food & Rural Communities and Environment & Forestry and is responsible for Scottish plant health policy and official plant health activities.

Plants Horticulture and Potatoes Policy Branch, Science and Advice for Scottish Agriculture Division (SASA) and Rural Payments and Inspections Division (RPID) are responsible for plant health as it relates to agriculture and horticulture.

Forestry Commission Scotland (FCS) is responsible for forest trees and timber.

The SG works with other parts of the UK Plant Health Service that have cross-border responsibilities, including Forestry Commission Cross Border (FCCB) which is currently responsible for activities including inspections of forest tree nurseries, import inspections of wood and wood packaging, contingency planning and plant health licensing. Forest Research, an executive agency of FCCB, provides scientific support to FCS and FCCB (as well as to Forestry Commission England and Natural Resources Wales).

The SG also works with other Scottish organisations, including Scottish Natural Heritage (SNH) and the Scottish Environment Protection Agency, to deliver a range of plant health activities in the natural environment.

The introduction and spread of many new pests has occurred as a result of increased trade in plants and plant products and are influenced by other factors such as climate change. Such pests can affect crop and garden plants, trees and native plants and they can therefore seriously affect livelihoods and the environment.

Clear governance is critical so that we are all aware of our roles and responsibilities in preventing the introduction and spread of pests. All sectors should take responsibility and a two-way process of communication and cooperation is needed between the SG, public bodies, industry, NGOs, academia, landowners and the general public. Engagement is required at all levels to ensure 'buy-in' from those who will implement this strategy. A 'risk-sharing' approach by industry with the SG is particularly important. For example, awareness by industry of the risks to their

business associated with importation of certain plant material and the potential consequences to businesses and the environment if pests are introduced.

As well as considering plant health threats, it needs to be recognised that plant health actions can have unintended consequences (e.g. negative impacts on trade and on biodiversity) as well as positive impacts. We need to work together to ensure all aspects are taken into account.

In preparing for outbreak situations, responsibilities should have already been identified through contingency planning, communicated clearly and tested through simulation exercises on a regular basis. Actions will not always be led by the SG; industry may take the lead. An example is the Spotted Wing Drosophila Working Group, which was set up to manage *Drosophila suzukii*. We will therefore ensure that in such situations the roles and responsibilities are clear. For UK outbreaks, we will work with the rest of the UK Plant Health Service and liaise closely with the UK Chief Plant Health Officer.

In Scotland, partnerships are well established for some sectors, for example potatoes and tree health, but we need to ensure that there is greater engagement and cooperation across all sectors.

The general public and trained experts have a role in preventing spread of pests and also identifying new outbreaks. Examples of successful initiatives for pest detection include citizen science projects such as Observatree²⁴, OPAL tree health survey²⁵ and the Tree Alert²⁶ reporting tool.

4.2 Economic, social and environmental impacts

Plant pests have the potential to have a greater impact on livelihoods in Scotland compared to other parts of the UK. This is due to the relatively larger rural sector in Scotland and the importance of the natural landscape to tourism.

Although it may be relatively easy to quantify potential economic crop or forestry losses as a result of specific pests, there are greater challenges in quantifying social and environmental impacts and prioritising actions to mitigate these.

A further complication when considering environmental impacts is the potential for cumulative effects of multiple pests, leading to long-term cumulative impacts both on individual plant host species and on the ecosystems of which they form a part.

We must also consider the potential impacts of pests at different scales, from issues for individual growers associated with management of pests to impacts at sector level or on the natural environment and associated ecosystem services.

²⁴ <http://www.observatree.org.uk/>

²⁵ <http://www.opalexplornature.org/TreeSurvey>

²⁶ <http://www.forestry.gov.uk/treelert>

4.3 Communication and knowledge transfer

Two-way communications between SG and stakeholders is essential and communication plans should be put in place at an early stage. It is important for all to be aware of potential new pest risks so that sectors are prepared for such risks and know where to find information to take action if required. A particular challenge is to deliver biosecurity messages and outcomes positively without affecting consumer confidence.

We should pro-actively promote plant health, making use of available evidence, rather than simply responding reactively to issues after they arise. Given that Scotland's key crops and natural environments (including malting spring barley, seed potatoes, soft fruit, forests, woodlands and heather moorland) represent significant employment in rural communities, these communities and businesses may have the potential to positively influence change.

It is also important to improve awareness of plant health issues at all levels, from the general public to relevant sectors.

As well as communication within Scotland, we need to continue to play our part in ensuring there is effective communication across the UK, within Europe and internationally. Strategies for dealing with animal diseases are relatively well defined and it would be appropriate to learn from animal health experiences in some cases.

4.4 Preventative action

To prevent the entry and establishment of key pests and to manage risks from existing pests, the SG is actively involved in assessing pest risks, providing data and advice to help update the UK Plant Health Risk Register and agreeing actions as part of the UK Plant Health Risk Group. Through this process we can identify potential Scottish priorities. The SG is also responsible for the Scottish generic plant health contingency plan and developing simulation exercises. Additional specific contingency plans with clear arrangements for the management of key pests are required. These will be agreed in consultation with stakeholders.

Preventative actions may include the destruction of plants and plant material, movement controls, designation of buffer zones and special protection zones (e.g. no new planting of host species), chemical and biological control methods, enhanced traceability of planting material and enhanced inspection regimes.

4.5 Value for money

It is essential that actions are proportionate, effective and affordable.

5. FRAMEWORK FOR THE STRATEGY

The Scottish strategy is based on the framework in the GB strategy (Figure 1).

5.1 Risk based decision making

Government actions

The UK Plant Health Risk Register ('the risk register') underpins and provides a focus for plant health activities within the UK. The Plant Health Risk Group manages the Risk Register and SG participates actively in the monthly meetings which assess pest risks and decide on management options. Scottish experts engage with relevant counterparts in the UK, Europe and internationally to identify new risks.

The risk register lists known potential pests and will be used, with adjustments, to identify Scottish priorities. SG will prioritise actions accordingly with the relevant sectors.

We will develop a forum²⁷ to discuss Scottish pest risks and agree priority actions. Decisions will be based on available evidence and may require commissioning of new evidence, including modelling of potential pest spread. The proposed Centre of Expertise for Plant Health (see section 5.6) may play a role in such evidence provision. We will consult with stakeholder groups and agree relevant actions and highlight threats to different sectors.

The priority will be to deal with threats to Scottish interests appropriately and quickly. These may not always have the same priority level for the rest of the UK or the EU. However, in most cases, as pests do not recognise borders, most actions will be coordinated across the UK. We will also take actions where required in EU legislation.

Stakeholder decisions and actions

Actions will not always be led by government, ongoing sharing of responsibilities is essential and in some cases industry may take the lead. Businesses must also take actions to manage risks to their business and the natural environment. All those with a role in plant health should be aware of the plant health risks and what they can do to reduce them.

The publication of the risk register allows for risk-based decision making by different sector groups. Relevant information from SG and other parts of government is also published on websites and through communication with industry bodies, NGOs and charities. Some sectors in Scotland are already well-placed to make decisions and take action in response to new pest risks based on such information.

Readily accessible, clear information is helpful for businesses. Alert systems on the main threats to particular plant species would mean that relevant industries could identify risks and take appropriate actions. We will therefore consider ways to

²⁷ Government and partners (e.g. SNH). This is likely to develop with the appointment of the Scottish Chief Plant Health Officer

highlight specific pests, pathways and vulnerable hosts to the key sector groups in Scotland so that they are aware of threats and can take actions.

We will also work within SG to highlight potential risks of new pests, for example to influence grant requirements and procurement policies to minimise planting low health material to meet short term goals.

A collaborative approach is the best way to prevent the entry of new pests, to manage outbreaks and to improve our preparedness for dealing with new threats.

Actions:

- **Scotland to continue to play its part in UK plant health efforts**
SG officials will continue to contribute to UK plant health meetings, including the UK Plant Health Risk Group, to protect Scottish interests, influence UK decisions and maintain collaboration across the UK.
- **Identify Scottish pest risks and priorities**
We will develop a government plant health forum to agree priority actions in collaboration with existing advisory groups.
- **Develop stakeholder participation**
We aim to develop a mechanism, e.g. a stakeholder network, for all Scottish plant sectors to be informed of pest risks, to contribute to discussions on priorities and therefore to take actions to deal with identified pest risks.

5.2 Increased awareness and involvement

The SG must work with all stakeholders, including the general public, and provide clear messages. Certain sectors within Scotland have good awareness of plant health issues and have existing mechanisms for communication, for example the seed potato sector and the forestry sector through the Scottish Tree Health Advisory Group (STHAG). A challenge is to develop and maintain communications with and between all relevant parties. We will aim to proactively raise awareness of pest risks with the public sector, industry, NGOs, academia, landowners and the general public (see section 5.1).

Increased awareness of plant health issues is needed in some key sectors, for example the retail food sector, amateur gardeners and gardening organisations, small but potentially high risk sectors (e.g. carrots and bulbs) and the landscape sector importing plant material (often with associated soil). It is also important that plant health risks are considered as part of public projects e.g. by local authorities or Transport Scotland.

Within-sector engagement is also necessary. Some, e.g. Agriculture and Horticulture Development Board (AHDB) Potatoes and the Horticultural Trades Association, have clearly established networks and in the forestry sector biosecurity messages have been promoted at forestry events, on websites and via social and traditional media outlets. However, more work is needed with and by other sectors to develop their networks and engage on plant health.

In the scientific and advisory community good relations already exist, with updates at technical meetings and conferences (e.g. Crop Protection in Northern Britain, Potatoes in Practice, Cereals in Practice, Fruit Focus, Scottish and Regional Forestry Forums, International Union Of Forest Research Organisations) and with producer groups.

As part of raising awareness of plant health issues, it will be important to engage with private stakeholders, publicise plant health threats and support surveillance (citizen science) activities. SG already contributes to wider UK campaigns through Defra, for example the Royal Horticultural Society's Chelsea Flower Show, but it will be important to engage with the public in Scotland, such as through Gardening Scotland and agricultural shows. It might be possible to change attitudes towards public purchasing of plants, such as promoting purchasing of plants under the 'Grown in Britain' certification scheme through media, e.g. Beechgrove Garden, horticultural societies or through awareness raising activities in popular venues such as the Royal Botanic Garden in Edinburgh.

Businesses and the public also need to be aware of risks associated with specific pathways, for example the implications of buying plants on-line from unknown sources or the use of wood and wood packaging material that does not meet EU import requirements or UK/GB protected zone requirements. Responsible procurement and sourcing (e.g. by growers, supermarkets and construction companies) should be encouraged. International passengers also need to be aware of risks associated with bringing plants and plant material to Scotland.

There should also be increased understanding across SG departments of plant health issues; the responsibility to prevent pest introduction and spread is not just that of a single area. This should prevent fragmentation in decision-making.

For trade in Scottish products, ensuring that customers are aware of the benefits of healthy plant material may be an effective way of ensuring market advantage for certified products.

Governance

In most cases the roles and responsibilities of different groups in protecting the health of plants in Scotland are clear. In some situations the SG agrees roles and responsibilities on a case by case basis depending on circumstances. Governance needs to evolve, and roles and responsibilities are reviewed regularly to ensure that arrangements are as clear as possible. For example, SG already works with SNH and other environment stakeholders to agree responsibilities for protecting the natural environment and how they interact with official plant health services in implementing actions.

Actions:

- **Publicise information on pest risks for all sectors**

By creating a network of all sectors in Scotland and by working with the UK Plant Health Service, SG will increase the availability of information on pest risks and actions for all stakeholders.

We will ensure all target audiences are aware of their responsibilities to help prevent the spread of pests.

We will provide points of contact and, where appropriate, best practice guidelines.

- **Governance**

We will identify clear roles and responsibilities and build better relationships between SG departments. Areas for early attention are clarification of plant health roles, responsibilities and resource allocation for the natural environment and urban trees.

- **Stakeholder engagement**

We will work with all sectors to develop and improve engagement activity on plant health issues.

- **Biosecurity**

We will increase the awareness of biosecurity to protect plant health by participation in UK/GB campaigns, via social or traditional media or relevant publicity at Scottish shows, meetings and workshops.

5.3 Pre-border measures

SG and stakeholders can reduce the likelihood of introduction of new pests to Scotland by working with other countries to ensure the effective application of control measures before import. Interactions with trading partners can also increase our awareness of pests that may pose a risk to Scottish crops, trees and the wider environment.

Scotland, as part of the UK, operates within the EU plant health regime. National and EU plant health regulations take international agreements into account. The current review of the EU regime has provided an opportunity to enhance plant health controls and to introduce a new regime that is better suited to meeting our needs. SG has contributed actively to the UK's negotiating positions on EU plant health issues, reinforcing Scottish priorities. Scottish experts also contribute internationally to influence plant health regulations and standards (e.g. International Plant Protection Convention and European and Mediterranean Plant Protection Organization standards).

SG will continue to support UK and EU efforts to work with exporting countries to help ensure they comply with EU import requirements. The intention is to enhance pre-border security and minimise pest risks. Collaborations with scientists in exporting countries will also continue to be encouraged.

We have good international links for some commodities, but need to work with other countries and within the UK on our approach to assessing the risk from new and emerging trades. Mapping and targeting possible pathways for introduction of key and yet-unknown pests would help with assessments of risks to Scotland. Sourcing relevant information is essential to provide evidence for decision making.

We already work with Defra and EU colleagues to prohibit the introduction of products posing significant pest risks where technically justified. For example, we have supported the UK position on simplification of the personal baggage allowances at import²⁸ to enable better enforcement, as the UK Plant Health Service has identified this as a potential pathway for the introduction of pests.

There is a need to ensure traceability of plants and plant products. In sourcing plant material, businesses should be encouraged to develop customer-led specifications to safeguard plant biosecurity.

In relation to exports, SG will continue to contribute to UK export negotiations and take the lead for coordinating a UK position for plant products which are particularly relevant to Scotland, such as seed potato exports. We also host inward missions of plant health officials from potential importing countries. This will continue and we will look at other sectors where this model may be helpful. SG continues to work with the food and drink industry to ensure the sector continues to flourish given its importance to the rural economy.

We provide health certificates for plants and plant products for export to ensure that the wider global plant health biosecurity is maintained. Preventing the export of pests is important to enhance our international reputation and benefit trade by supplying clean material.

Actions:

- **Scottish involvement in pre-border activities**

SG will continue to contribute to and influence UK negotiating positions on EU plant health regulations to ensure Scottish priorities are included, to deliver more effective plant health protection, and reduce the risk of harmful pest introductions.

Scottish experts will continue to contribute to development of international plant health standards.

- **Exports**

SG will continue to contribute to UK export negotiations and lead the coordination of a UK position for certain commodities which are particularly relevant to Scotland e.g. seed potatoes. We will actively participate in hosting visits from plant health officials (inward missions).

²⁸ <http://www.gov.scot/Topics/farmingrural/Agriculture/plant/PlantHealth/PlantMovements/PrivateIndividuals>

We will look at the inward mission model with interested stakeholders to assess if it could be beneficial for other sectors to help develop their export markets.

We will continue to work with Scottish exporters to ensure they are aware of their responsibilities to inspect material and not spread pests.

5.4 Border measures (imports from outside the EU)

Scotland, as part of the UK, operates within the EU regime of import controls. Inspections are carried out at the border on regulated material from outside the EU to verify that import requirements have been met and to intercept prohibited material and pests. There is no systematic inspection of unregulated material on entry into Scotland or the UK, but Member States may undertake risk-based monitoring checks anywhere in the production chain to ensure that plant health requirements have been met.

SG plant health inspectors check all regulated plant material from outside the EU imported directly into Scotland in accordance with EU requirements, apart from inspections of wood and wood packaging material (which are currently carried out by FCCB). In the UK, most trade is via English ports and airports. On average approximately 200 consignments are directly imported into Scotland annually compared to more than 100,000 for the UK as a whole. SG will continue to cooperate and liaise with Defra's Plant Health and Seeds Inspectorate (PHSI) who inspect imports at English and Welsh ports and airports.

PHSI inspections are prioritised based on risk. SG inspectors also carry out risk-based monitoring to safeguard the high health status of planting material and where specific pest risks have been identified. The UK will continue to liaise with other plant health authorities to prevent entry of new pests; this relies on effective sharing of information

We charge for plant health import inspections for material from outside the EU and will continue to keep charges under review in liaison with stakeholders.

We will work with the rest of the UK Plant Health Service and the scientific community to explore and develop, where appropriate, new technology to be used for detection and diagnosis of pests at the border.

Imports arriving in the UK as a result of internet or distance selling represent an increasing risk but there is a lack of awareness of the pest risks associated with this pathway by businesses and the public. Also, although covered by legislation, it is difficult to obtain information about this trade and ensure regulations are implemented properly. The extent of plant material brought into the UK by international passengers is also poorly understood.

We will work with the UK Plant Health Service and Border Force to develop a better understanding of risks from commercial trade and passengers and consider how we can improve public awareness of the risks. We will also explore how to better target

or increase passenger baggage checks. Highly visible information on plant health displayed at borders is one important way of raising awareness with the public.

Actions:

- **Border inspections**

SG inspectors will continue to inspect regulated material at import and conduct risk-based inspections of unregulated trades.

We will support UK Plant Health Service activities with Border Force to ensure passenger baggage allowances are clear and to gain intelligence on risks and raise awareness.

We will support publicity campaigns for example on passenger baggage allowance or distance selling/internet trade.

5.5 Inland measures and intra-EU trade

The EU plant health regime requires that certain plants and plant products must be accompanied by a plant passport. Authorised persons are responsible for ensuring that the plant material meets requirements for freedom from quarantine pests prior to attaching the plant passport and moving the plants. The SG's annual programme of audits and inspections verify that plant health requirements are met and also provide a way of informing registered operators about new pest risks.

Plant passporting arrangements are likely to be strengthened under the new EU Regulation on Protective Measures against Pests of Plants. We will continue to work with the rest of the UK Plant Health Service and other EU Member States to develop a robust system. The new regulations will include more stringent requirements for registered operators and training for authorised persons. Clear guidance and best practice guidelines for the movement of plants will be important and traceability is a key issue.

Surveillance

Surveillance is crucial for the detection of pests and the GB strategy commits to increase our capacity in this area, a good example being FCS's enhanced aerial surveillance programme for *Phytophthora ramorum* on larch and a range of other tree pests and pathogens. We will continue to undertake surveillance required under EU legislation and will also undertake targeted, risk-based surveillance and monitoring based on risks identified in the risk register and Scottish priorities.

This activity should be flexible and may require additional capacity for inspection and laboratory testing. We will also explore the development and introduction of new diagnostic methods for certain pests.

We will explore with stakeholders options and opportunities for them to contribute to monitoring activities. Existing projects and groups, such as Observatree volunteers and SNH monitoring of protected nature conservation sites, may be able to be involved with determining the extent of relevant outbreaks. There may also be other

existing networks, such as Local Authority Biodiversity Officers and Local Authority Tree Officers which could assist with such activities. Points of contact should be provided for dealing with stakeholders and the public to provide guidance and information on best practice.

Contingency planning and outbreak management

A priority for the next five years will be to update the SG plant health contingency plan and to develop specific plans for key Scottish pests. Contingency planning exercises for priority pests will also be required under the new EU plant health regime. We will therefore develop and undertake simulation exercises to test and improve our plans and readiness.

We will work with stakeholders to develop Scottish plans and to provide clarity on roles and responsibilities. We will need to anticipate requirements for such contingency plans so that when outbreaks occur we are all aware of our responsibilities, with clear reporting lines, and outline measures for the control of specific pests or broader plans are in place for new pests. In addition to Scottish activity, we will work with the UK Plant Health Service to ensure collaboration in developing plans to avoid unnecessary duplication and ensure efficient use of resources and data.

We will improve our plant pest modelling capacity to help define priority actions and identify likely outbreak scenarios.

There are particular challenges with contingency planning and outbreak management for pests affecting trees and plants in the natural environment. Outbreak management plans will need to include consideration of issues such as:

- assessment of future threats, especially for long-lived species
- resilience objectives and how these allow change or adaptation from current systems.

When outbreaks of EU quarantine pests occur we will aim to eradicate, or if this is not possible, contain them. We will need to be ready to adjust plans and respond flexibly. For serious outbreaks of non-quarantine/native pests, management plans may need to be developed enabling us to 'learn to live' with them.

We will work with partners to tackle outbreaks quickly and keep all informed. SG has a pool of trained specialists who can be used in emergency situations. We also have business continuity plans in place to respond to, and practice, outbreak situations.

It will be important to assess the effectiveness of previous surveillance and eradication campaigns and learn lessons for future activities. If necessary we will commission studies to provide evidence of best practice.

The potential impacts of changes in pesticide legislation will be considered by the PHRG and added to the UK Plant Health Risk Register, particularly how such changes may affect outbreaks of new pests.

Actions:

- **Strengthened EU plant health regime requirements**

We will work with stakeholders and registered operators to implement the new EU Regulation on Protective Measures against Pests of Plants to ensure it delivers greater protection from pests and, where possible, avoid unnecessary additional burdens.

- **Surveillance**

We will fulfil mandatory surveillance obligations for EU priority pests and increase surveillance for other pests where we have determined this is a priority.

We will engage with stakeholders to develop initiatives for surveillance and reporting, for example Observatree, Tree Alert and possible networks of amateur gardeners.

- **Improved technology**

We will work with others to develop and implement new technology to improve diagnostic capability wherever possible.

- **Contingency planning**

We will engage with stakeholders to update the SG generic contingency plan and publish it on the SG web site. In partnership with the UK Plant Health Service, we will contribute to and develop pest specific plans identified using the risk register.

We will develop and/or undertake regular simulation exercises to test our plans.

We will review the effectiveness of our procedures and measures and make changes as necessary.

We will support initiatives to build resilience in plant communities.

5.6 Evidence

There is a need for a strong evidence base and underpinning scientific knowledge to support our plant health activity. This is used by SG and stakeholders in order to target resources effectively and provide solutions from a Scottish perspective.

Factors include:

- timescale of the risk, influenced by the epidemiology of pests;
- value of sectors and potential outbreaks;
- impact on sectors and between sectors; and
- uncertainty.

Through plant health inspections, surveillance and monitoring programmes (e.g. helicopter surveillance for *Phytophthora ramorum* on larch), networks of trained experts (e.g. FCS Tree Health champions and Observatree volunteers) and scientific

services, SG generates evidence including in the areas of pest diagnostics, surveillance and pest distribution, epidemiology and control measures.

Scottish scientists have a high reputation globally and work with colleagues throughout the UK, Europe and internationally.

Future Evidence Needs

In many cases there is scientific literature or other evidence available to identify potential impacts of pests of agricultural crops, horticultural plants and forest trees. However, a key uncertainty relates to potential future impacts on ecosystems with time-scales measured in decades or even centuries. In such situations there is the added complexity of predicting the interaction that other pressures such as climate change may have on pest impacts.

As most movements of plants and plant products into Scotland are via England, many assessments on risks associated with potential introduction and establishment of pests in Scotland are based on UK figures. Data on movements into and within Scotland could aid risk-based decision making and modelling, although such data would be hard to obtain.

The 'value' of the plant/crop/landscape sectors to the Scottish/UK economy (related to both trade and environmental aspects) needs to be assessed. There is a lack of evidence currently concerning the economic and wider social impacts of pest outbreaks to the natural landscape. These values would be useful for assessing Scottish priorities and determining the costs and benefits of interventions. Cumulative effects of several pests on a particular host or ecosystem may need to be taken into account in some cases.

Another gap is provision for modelling of likely impacts of pests on agricultural and horticultural crops, trees and plants in the natural environment. In addition, we do not routinely undertake Scottish-based pest risk analyses (PRAs), but this may not be necessary as we contribute to the UK PRAs.

Research funding

SG funds world-leading research to underpin our plant health capacity through the Strategic Research Programme²⁹ and policy-related projects via the Contract Research Fund. We are committed to shared knowledge exchange and we ensure that our research has synergy and alignment with other research initiatives funded across the UK and EU.

We maximise the impact of our investment by co-funding research that Scottish stakeholders participate in (for example in EUPHRESO³⁰ projects) and by actively contributing to collaborative working groups to steer plant health research of relevance to Scotland (e.g. the Living With Environmental Change (LWEC), Tree

²⁹ <http://www.gov.scot/Topics/Research/About/EBAR/StrategicResearch/future-research-strategy>

³⁰ <http://www.euphresco.net/>

Health And Plant Biosecurity Initiative³¹, Global Food Security Programme, the Animal and Plant Health-UK initiative, AHDB, Horizon 2020 and the Scottish Forestry Trust).

The Science and Innovation Strategy for Forestry in Great Britain³² was signed off in 2014. There is a strong focus on tree health and environmental resilience which has followed through in the agreed four-year Forest Research Programme. This programme integrates with other research providers e.g. through the LWEC Tree Health and Plant Biosecurity Initiative projects.

For many natural environment plant species we lack baseline knowledge of plant distribution or ecology that would allow us to determine if plant health issues were developing. Furthermore, many plants communities occur in remote or rugged areas where the costs and difficulty of acquiring information may be high. There may be communities of interest or specialists who can provide some information (e.g. lower plant specialists), or a citizen science approach may be helpful. Overall however, knowledge of plant health in the natural environment is likely to be on a sample or proxy basis (via modelling), or limited to specific species.

Our plant health capacity and capability will be strengthened further by the commissioning of the proposed virtual Scottish Centre of Expertise (CoE) for Plant Health, which will provide faster responses to address policy questions than the Strategic Research Programme can deliver and will take a holistic, multidisciplinary approach to plant health issues. The CoE will co-ordinate collaborative working, knowledge exchange and research needs to identify and fill current shortfalls, such as modelling capacity and data exchange and provide support for plant health activities. This will be the fourth Scottish CoE. CoEs allow the creation of new partnerships and synergies, for example between existing research providers and universities. The CoE for Plant Health will help to raise the profile of plant health in Scotland and create a forum for discussion of difficult and/or contentious issues, for example potential issues associated with pests affecting trees or shrubs in gardens, forests and the natural environment.

Actions:

- **Scottish Centre of Expertise (CoE) for Plant Health**
Scottish Government is proposing to commission a Scottish CoE for Plant Health in early 2016.
- **Research commissioning**
SG will support plant health research through the Strategic Research Programme, Forest Research Programme, Contract Research Fund and the CoE. We will ensure compatibility across research programmes to maximise synergy and prevent duplication of effort.

When commissioning research, we will take into account social, economic and environmental impacts of pest outbreaks, especially in the natural

³¹ Funded by Defra, the Biotechnology and Biological Research Council, the Natural Environment Research Council and the Economic and Social Research Council, the Forestry Commission and Scottish Government

³² [http://www.forestry.gov.uk/pdf/FCFC002.pdf/\\$FILE/FCFC002.pdf](http://www.forestry.gov.uk/pdf/FCFC002.pdf/$FILE/FCFC002.pdf)

environment. This integrated approach will be further facilitated by the proposed CoE and areas with shortfalls, such as modelling, will be strengthened through skills transfer or research funding.

- **Participation in plant health research**

We will continue to participate in relevant collaborative research projects.

5.7 Capability and capacity

The SG was involved in the project on ‘Animal and Plant Health in the UK – Building our science capability’¹⁸, which examined scientific capability and capacity in the UK. As part of the UK Science Partnership for Animal and Plant Health we are taking this work forward and the output from the project can be used to inform the Scottish position.

There is an existing plant health resource in Scotland (including governmental, industry, scientific and citizen science) which can be built upon. A mapping exercise of the current capability and skills in Scotland has been undertaken in the context of the development of the CoE for Plant Health. Existing strengths have been identified including capacity for inspection and identification, applied laboratory skills and availability of specialised equipment and facilities. Creation of the CoE should increase scientific partnerships in the field of plant health within Scotland, particularly with Higher Education Institutes and across sector boundaries.

Some knowledge and capacity gaps have been identified e.g. taxonomic skills, singleton science specialists and diagnostic support. Applied plant health skills may soon be lost due to a lack of relevant training in universities, which is a risk for the success of this strategy. In some cases there is a lack of effective and/or acceptable control measures, including chemical/biological treatments, for some pests.

Skills pathway and Register of Plant Health Professionals

The initiative of the UK Chief Plant Health Officer to develop a skills pathway and a Register of Plant Health Professionals (hosted by the Royal Society of Biology) will help to ensure that expertise is maintained and enhanced. The SG is supportive of and involved in this initiative.

This should ensure that UK plant health experts continue to be and are increasingly recognised internationally for their knowledge and expertise. The UK is committed to engaging in and influencing international developments including taking the lead on knowledge exchange with exporting countries.

Continued investment is critical to ensure that surveillance methods, rapid and accurate diagnostic tests and control methods are available for pests, and to ensure continuity of skills in the next generation of inspectors, policy makers and scientists.

Training

There is the potential to engage with stakeholders at all levels to provide training and enhanced skills. We will continue to provide training in Scotland and will work with the UK Plant Health Service to develop this further.

Actions:

- **Maintain and enhance capacity and capability**

We will support initiatives to maintain and enhance key skills and capacity, including citizen science, for Scotland and address any gaps.

We will contribute to the next phase of the 'Animal and Plant Health in the UK – Building our Science Capability' project through the UK Science Partnership for Animal and Plant Health.

We will support the UK Chief Plant Health Officer's initiative for a skills pathway for plant health and Register of Plant Health Professionals.

- **Scottish Chief Plant Health Officer (SCPHO)**

We will appoint a SCPHO.

- **Education and training**

We will support developments to increase plant health awareness and engage with sector professionals and volunteers (e.g. Observatree), via training courses and by promoting plant health as a career.

6. DELIVERY OF THE STRATEGY

Appendix 1 contains a list of all the actions in this strategy. Over the period of the strategy these actions will be kept under regular review, together with governance arrangements.

Appendix 1. Actions for the Scottish Plant Health Strategy 2016-21

Section	Topic	Action	Notes
5.1	Risk based decision making	Scotland to continue to play its part in UK plant health efforts	SG officials will continue to contribute to UK plant health meetings, including the UK Plant Health Risk Group, to protect Scottish interests, influence UK decisions and maintain collaboration across the UK.
		Identify Scottish pest risks and priorities	We will develop a government plant health forum to agree priority actions in collaboration with existing advisory groups.
		Develop stakeholder participation	We aim to develop a mechanism, e.g. a stakeholder network, for all Scottish plant sectors to be informed of pest risks, to contribute to discussions on priorities and therefore to take actions to deal with identified pest risks
5.2	Increased awareness and involvement	Publicise information on pest risks for all sectors	By creating a network of all sectors in Scotland and by working with the UK Plant Health Service, SG will increase the availability of information on pest risks and actions for all stakeholders. We will ensure all target audiences are aware of their responsibilities to help prevent the spread of pests. We will provide points of contact and, where appropriate, best practice guidelines.
		Governance	We will identify clear roles and responsibilities and build better relationships between SG departments. Areas for early attention are clarification of plant health roles, responsibilities and resource allocation for the natural environment and urban trees.
		Stakeholder engagement	We will work with all sectors to develop and improve engagement activity on plant health issues
		Biosecurity	We will increase the awareness of biosecurity to protect plant health by participation in UK/GB campaigns, via social or traditional media or relevant publicity at Scottish shows, meetings and workshops.
5.3	Pre-border measures	Scottish involvement in pre-border activities	SG will continue to contribute to and influence UK negotiating positions on EU plant health regulations to ensure Scottish priorities are included, to deliver more effective plant health protection, and reduce the risk of harmful pest introductions. Scottish experts will continue to contribute to development of international standards.

Section	Topic	Action	Notes
		Exports	<p>SG will continue to contribute to UK export negotiations and lead the coordination of a UK position for certain commodities which are particularly relevant to Scotland e.g. seed potatoes. We will actively participate in hosting visits from plant health officials (inward missions).</p> <p>We will look at the inward mission model with interested stakeholders to assess if it could be beneficial for other sectors to help develop their export markets.</p> <p>We will continue to work with Scottish exporters to ensure they are aware of their responsibilities to inspect material and not spread pests.</p>
5.4	Border measures (imports from outside the EU)	Border inspections	<p>SG inspectors will continue to inspect regulated material at import and conduct risk-based inspections of unregulated trades.</p> <p>We will support UK Plant Health Service activities with Border Force to ensure passenger baggage allowances are clear and to gain intelligence on risks and raise awareness.</p> <p>We will support publicity campaigns for example on passenger baggage allowance or distance selling/internet trade.</p>
5.5	Inland measures and intra-EU trade	Strengthened EU plant health regime requirements	<p>We will work with stakeholders and registered operators to implement the new EU Regulation on Protective Measures against Pests of Plants to ensure it delivers greater protection from pests and, where possible, avoid unnecessary additional burdens.</p>
		Surveillance	<p>We will fulfil mandatory surveillance obligations for EU priority pests and increase surveillance for other pests where we have determined this is a priority.</p> <p>We will engage with stakeholders to develop initiatives for surveillance and reporting, for example Observatree, Tree Alert and possible networks of amateur gardeners.</p>
		Improved technology	<p>We will work with others to develop and implement new technology to improve diagnostic capability wherever possible.</p>
		Contingency planning	<p>We will engage with stakeholders to update the SG's generic contingency plan and publish it on the SG web site. In partnership with the UK Plant Health Service, we will contribute to and develop pest specific plans identified using the risk register.</p> <p>We will develop and/or undertake regular simulation exercises to test our plans.</p> <p>We will review the effectiveness of our procedures and measures and make changes as necessary.</p>

Section	Topic	Action	Notes
			We will support initiatives to build resilience in plant communities.
5.6	Evidence	Scottish Centre of Expertise (CoE) for Plant Health	Scottish Government is proposing to commission a Scottish CoE for Plant Health in early 2016.
		Research commissioning	SG will support plant health research through the Strategic Research Programme, Forest Research Programme, Contract Research Fund and the CoE. We will ensure compatibility across research programmes to maximise synergy and prevent duplication of effort. When commissioning research, we will take into account social, economic and environmental impacts of pest outbreaks, especially in the natural environment. This integrated approach will be further facilitated by the proposed CoE and areas with shortfalls, such as modelling, will be strengthened through skills transfer or research funding
		Participation in plant health research	We will continue to participate in relevant collaborative research projects.
5.7	Capability and capacity	Maintain and enhance capacity and capability	We will support initiatives to maintain and enhance key skills and capacity, including citizen science, for Scotland and address any gaps. We will contribute to the next phase of the 'Animal and Plant Health in the UK – Building our Science Capability' project through the UK Science Partnership for Animal and Plant Health. We will support the UK Chief Plant Health Officer's initiative for a skills pathway for plant health and Register of Plant Health Professionals.
		Scottish Chief Plant Health Officer (SCPHO)	We will appoint a SCPHO.
		Education and training	We will support developments to increase plant health awareness and engage with sector professionals and volunteers (e.g. Observatree), via training courses and by promoting plant health as a career.

Appendix 2: Actions since April 2014 to implement the GB Plant Biosecurity Strategy

Topic	Actions
General	Agreed to advertise for a Scottish Chief Plant Health Officer.
Risk based decision making	Assessed pest risks at the monthly UK Plant Health Risk Group meetings and added pests to the UK Plant Health Risk Register.
Raising awareness and involvement	Held two stakeholder workshops to develop the Scottish Plant Health Strategy, December 2014 and December 2015.
	Published the Scottish <i>Phytophthora ramorum</i> Strategy ³³ and Scottish <i>Phytophthora ramorum</i> Status Report ³⁴ in September 2015.
	Supported the Animal and Plant Health Agency's show garden at the Chelsea Flower Show to promote biosecurity messages.
	Promoted biosecurity messages, e.g. on-going promotion of 'Plants Get Ill Too' and 'Keep it clean' campaigns.
	Supported the creation of a network of trained experts as part of the Observatree programme ²⁴ and development of the pest reporting tool Tree Alert.
Pre-border	Worked with the rest of the UK Plant Health Service and stakeholders to develop UK positions for negotiations of the new EU Regulations on Protective Measures against Pests of Plants and Official Controls.
	Held Tree Health training events and disease specific training events (e.g. Dothistroma needle blight) for the network of FCS Tree Health Champions and the wider forestry sector.
Border	Inspected 100% of imported regulated plants and plant products.
Inland	Revising the Scottish Generic Contingency Plan for Plant Health Outbreaks and due to consult stakeholders during 2016. We also aim to test the plan before April 2016.
	Followed up interceptions and reports of pests, including Elm yellows phytoplasma on <i>Ulmus</i> spp, <i>Xanthomonas axonopodis</i> pv. <i>pruni</i> on <i>Prunus laurocerasus</i> , <i>Epitrix</i> spp. on ware potatoes, <i>Tetropium fuscum</i> on <i>Picea</i> logs.
	Further development of the STHAG and its three working groups (Plant Production, Sustainable Forest Management and Wood Use & Processing)
	With forestry stakeholders in the STHAG, developed action plans for Chalara dieback of ash, <i>Phytophthora ramorum</i> on larch and <i>Dothistroma</i> needle blight on pine.
	Undertook helicopter and ground based surveillance and monitoring programmes for a range of tree pests
Evidence	Developed a business case for and proposed commissioning of a Scottish Centre of Expertise for Plant Health in early 2016 to underpin plant health capacity in Scotland.
	Commissioned a range of plant health research projects including on psyllid vectors of 'Candidatus' <i>Liberibacter solanacearum</i> , risks to Scotland of <i>Phytophthora</i> species, control of <i>Dothistroma</i> needle blight and detection of phytophthoras in soil.

³³ <http://www.gov.scot/Publications/2015/09/8331>

³⁴ <http://www.gov.scot/Publications/2015/09/8442>

Topic	Actions
Capacity and capability	Participated in Defra-led project on Animal and Plant Health in the UK: Building our Science Capacity ¹⁸ to deliver a UK-level strategy to identify key priorities and critical scientific questions to better predict, detect and understand animal and plant health problems by 2020. A Scottish pilot will be implemented to test the strategy at a regional level in 2016.
	Supported the UK Chief Plant Health Officer's initiative to develop a Register of Plant Health Professionals.
	Reviewed existing capability and capacity in Scotland as part of the development of the Scottish Centre of Expertise for Plant Health.



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