



Plant Healthy Certification Scheme

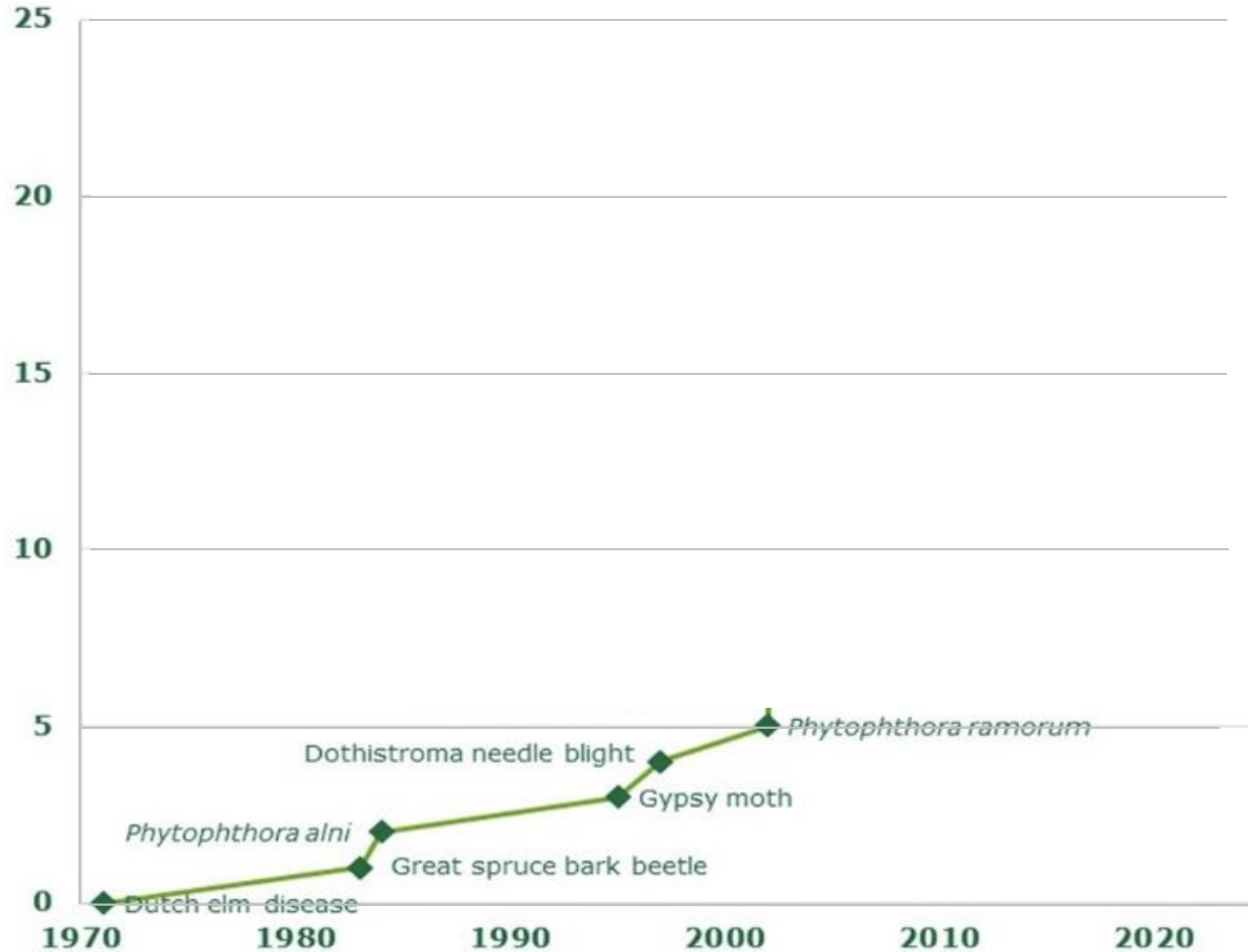
Scotland Tree and Plant Health Update - Confor

2nd December 2025

Alistair Yeomans MICFor & MCIHort
(on behalf of Malcolm Catlin – Project Director)



The Problem – exotic (notifiable) plant pests





The Problem – exotic (notifiable) plant pests

The European Commission describes “*Xylella as one of the most dangerous plant bacteria worldwide, with huge economic impact for agriculture, public gardens and the environment*”

600 plus
species of plants
currently known
to be susceptible
to Xylella



Xylella - first case of deadly tree bacteria arrives in France



The Problem – exotic (notifiable) plant pests

Growers

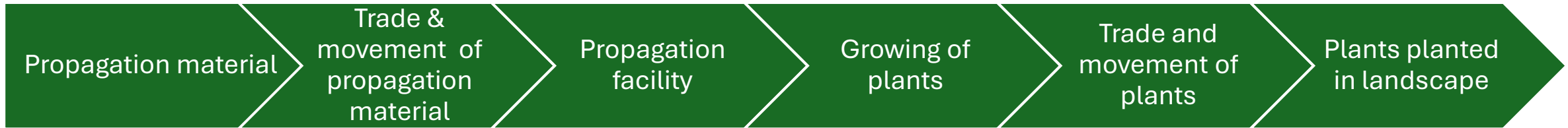
Traders

Retailers

Landscapers

Arborists

Public gardens



Reality – over 80% of plants (volume and value come from international sources)

Most common pathway for notifiable plant pests to be introduced to a new area is by the movement of live plants

Plant Diseases and Biosecurity, Beales et al. 2019

Plant Pests (and diseases) spread via national and international supply chains

Plant Health Alliance



- 2018 – formed due to rising concerns about the severity of plant health threats
- Wide range of bodies covering a broad spectrum of plants and trees interest groups
- Meets twice per year
- Monthly working group



Llywodraeth Cymru
Welsh Government



Plant Health Management Standard



- PHMS - Systems-based approach to help prevent introduction and spread of harmful pests and diseases
- Evidence-based and reviewed by an expert Technical Advisory Group
- Continual improvement - Version 1.0 released in 2019
- Version 1.3 released in 2025
- **Proactive** approach – with specific focus on plant biosecurity

A Systems Approach for Management of Pests and Pathogens of Nursery Crops



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Nursery Production Systems Are Complex Systems

Horticultural nurseries are exceedingly complex agricultural systems, making pest and pathogen management very challenging. Compared to crop monocultures, nurseries are characterized by extreme heterogeneity in plant material. The typical agricultural row crop contains a single cultivar of a single species, grown over hundreds or even thousands of acres, whereas a single horticultural nursery of 40 acres may grow upward of 500 different plant taxa in any given field season (Fig. 1). The typical agricultural crop is started from a uniform propagative material: seeds, closely propagated tubers, or cuttings from a single source. In contrast, many nurseries propagate multiple species, each from a variety of sources including seeds, bulbs, tubers, cuttings, scions, grafted rootstocks, and tissue culture. This propagative material may originate from multiple sources including on-site production blocks and domestic and overseas markets and can be commingled in propagation blocks.

Nurseries are also characterized by extreme spatial and temporal heterogeneity. Plants typically undergo repotting several times as they are transferred from micropropagation cells (tissue culture plantlets) or flats (seeds or cuttings), and are moved from the propagation house to production greenhouses to container yards or the field. Plants are densely packed in the early stages of growth, and are spread further apart as the canopies expand. Container stock is constantly moved from place to place in the nursery and commingled with other lots. Different plant species require different potting media with particular biological, chemical, and physical properties. Blocks of plants with similar water use are grouped together, but there may be several different irrigation systems (drip, microsprinklers, overhead spray) in a single nursery, and several different irrigation frequencies. In contrast, the typical monoculture row crop is grown in a fairly uniform growing environment, gener-

ally in a single soil type with similar physical, chemical, and biological properties, although slope and aspect may vary within the field. Cropping history, tillage, organic matter management, soil fertility, irrigation regime, sunlight, and plant spacing are also fairly uniform within monoculture crops. Unlike nursery crops, most agricultural crops stay in the same place once planted.

Complexity Confounds Pest Management

Pest management is complicated by the heterogeneity of production systems typical for nurseries consisting of a large diversity of plant material grown, the variety of cultural methods employed, compounded by the spectrum of microenvironments (3,4,17). Each plant species is host to a range of plant diseases, insect pests, and abiotic disorders. These must be scouted, recognized, and managed using pest management tools and approaches that often differ among plant taxa. For example, a single nursery in Oklahoma trains scouts to recognize 38 different disorders (18). Epidemiological models and forecasting systems so helpful in managing diseases of agricultural crops such as potato late blight, wheat rust, and soybean rust are almost completely lacking for even the most important diseases that affect nursery crops. A predictive model for rose downy mildew is being developed but is not yet applied commercially (1). Disease forecasting models for apple scab and fire-blight on fruit trees could be applied to related tree varieties grown as ornamentals, but this is not a common practice in nurseries. For these reasons, nursery personnel with limited training in plant pathology and entomology face a daunting task in responding appropriately to disease and pest outbreaks.

Nursery Plants Can Be Vectors of High-Stake Pests and Pathogens

Despite all these challenges, management of disease and pest outbreaks in nurseries is particularly critical. Nursery stock can be an important long-distance vector for many pests and pathogens, including exotic organisms that threaten not only ornamentals but also agricultural crops and forests (Table 1). There are numerous historical examples of pathogen and pest introductions via the nursery trade, some of which have caused widespread and catastrophic epidemics. For example, *Cronartium ribicola*, the cause of white pine blister rust, was introduced to 226 locations in the U.S. Midwest on German nursery stock, nearly wiping out white pine (21,26). Chestnut blight, caused by *Cryphonectria parasitica*, was introduced from Asia on nursery stock of Japanese chestnut sold by mail order nurseries beginning in the 1890s (7). By 1926, the disease had spread throughout the eastern North American forests,

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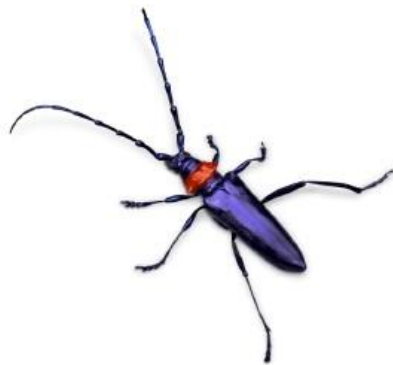
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Plant Healthy

Certification Scheme Manual



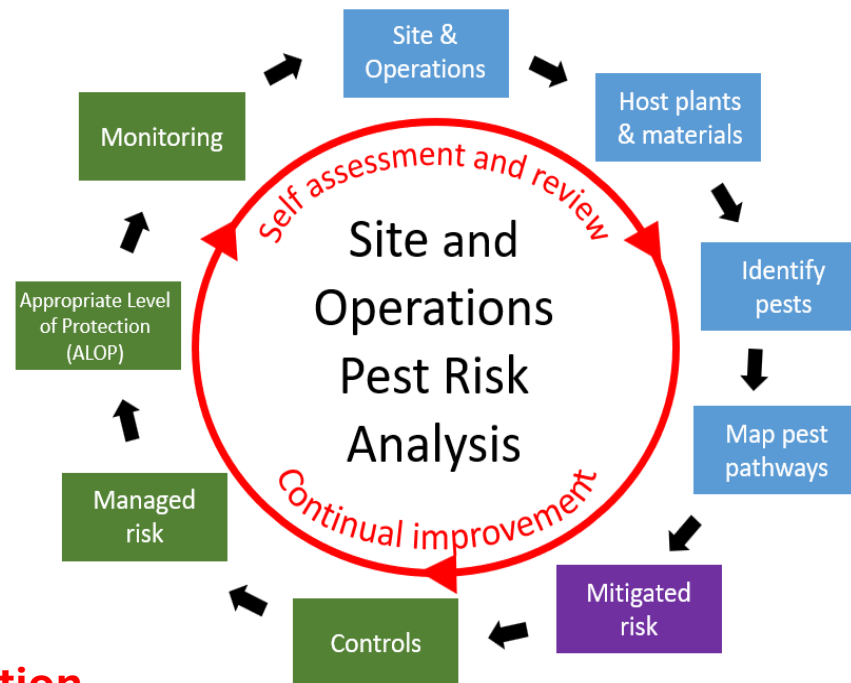
Plant Health Management Standard
Version 1.3



1st July 2025

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Proactive or systems approach to plant biosecurity



Prevention

Most common pathway for notifiable plant pests to be introduced to a new area is by the movement of live plants Plant Diseases and Biosecurity, Beales et al. 2019



Site & Operations
Pest Risk Analysis

Supply chain
management

Statutory
requirements

On site
monitoring

Wider
environment

Reporting

Traceability

PHMS – Quality Management System



LEGISLATION
REQUIREMENTS



POLICY AND
RESPONSIBILITIES



SITE AND OPERATIONS
PEST RISK ANALYSIS



SUPPLY CHAIN



PLANT HEALTH
PROCEDURES



CHECKING,
MONITORING AND
TRACEABILITY



TRAINING, KEEPING UP
TO DATE, CONTINUOUS
IMPROVEMENT



Plant Healthy Certification Scheme



- Means of applying the PHMS via independent annual audits by appointed certification bodies
- Professional Operators growing or handling plants and trees: growers, landscapers, designers, arborists, retailers, traders, large gardens (public and private)
- Plant Healthy logo - high standard of biosecurity
- Anywhere: although current membership is in GB, the PHMS can be applied in any country



Why is a voluntary scheme needed?



- Legislation tends to be reactive (e.g. inspections) - Plant Healthy is **proactive**, based on risk assessments and prevention
- Not everything can be officially inspected, and not all pests and diseases are readily visible all the time
- Operators - anyone growing, moving or selling plants and trees - are extra eyes, looking at their crops daily

N.b. - the Scheme demonstrates high standards of biosecurity practice for Biosecure Procurement Requirements (BPRs)



What are the benefits of certification?



GOOD BUSINESS
PRACTICE: AVOID
RISKS



MARKETING TOOL



MAY BE PREFERRED,
OR REQUIRED, AS A
SUPPLIER



POSSIBLE FUTURE
INCENTIVES



STAY UP TO DATE WITH
EMERGING THREATS
AND NEW RULES



GOOD BUSINESS
PRACTICE: AVOID
RISKS

Chip

branches etc
that cannot go
into green waste
and too small
for logs

logs

Biomass
Energy

soil & stone

To local waste
merchant for
screening.
Separated into
constituent parts
- all recycled
- pay for this to
go

green waste & spent compost

Agrivert for
composting (PAS
100) – pay for this
- tonnage charge
for the material

Royal Botanic Gardens Edinburgh



"The retail area of RBGE was viewed as particularly high-risk. It became apparent that the risks associated with certain species supplied to us and their provenances was not always clear.

There were also pest risks associated with other products (e.g., bird boxes) and wooden pallets arriving from international suppliers.

The Plant Healthy certification process mitigates and minimises the risk of new pest species arriving and spreading from the retail area to the rest of the garden and beyond."

RHS Garden Harlow Carr



"The Plant Health Management Standard - is a very valuable, logical framework...

...The Management Standard is helping us to identify potential risks to our gardens, business operations and reputation, enabling us to address them.

...The RHS is keen to encourage improved biosecurity across the entire horticulture supply chain.... Increased visibility of the scheme through the involvement of retailers would give this [scheme] a real boost. "

Plant Healthy Limited



- Charitable status with Trustees and an Executive
- Owns the Standard and logo and administers the Scheme
- Chair of Trustees – Sir Nicholas Bacon
- Malcolm Catlin - Project Director
- Personnel include - independent technical & compliance specialists
- Funded by membership fees, support from Defra (NPPO), other grants, donations and Alliance members





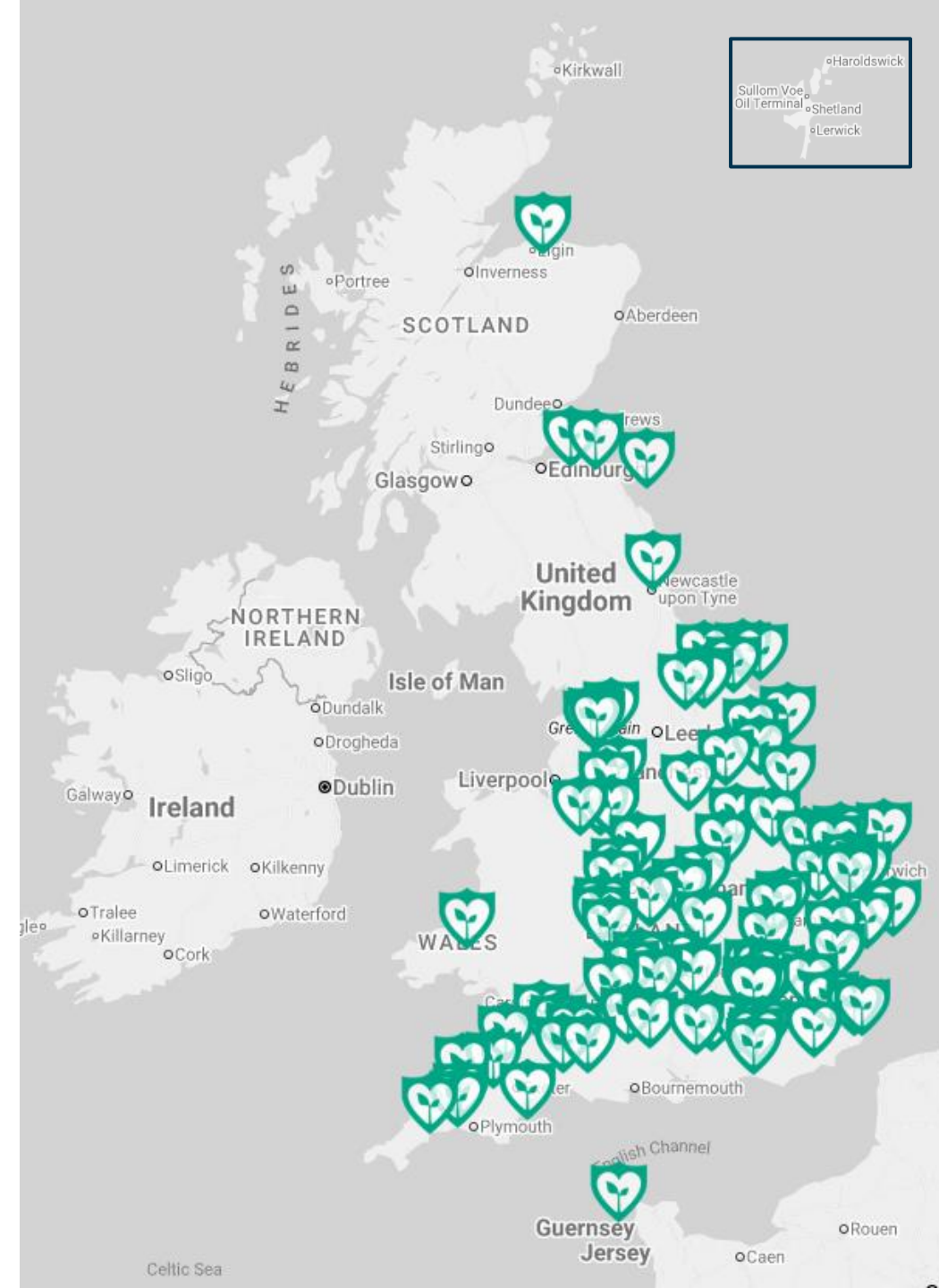
The challenges

- Certified members; currently 105 + 10 applicants
- 171 million plants & trees pa over 3,400 hectares in GB
- We have a business plan, funding, a team, a technical base, auditing systems, and c. 100 members, **but...**
- Our membership needs to expand – in numbers, in scopes of enterprises covered, in geographical coverage
- Awareness within the trade of the threats and preventative measures is still not sufficiently widespread
- There's also a lack of public awareness of their role – and what we mean by plant health in this context

With Plant Healthy we have a 'vehicle' – now we need to grow the movement

Our plans

- Build membership: numbers, scopes, geographically
- Harness the Alliance and member networks (e.g. look to work with SASA in Scotland)
- Promoting the scheme – trade and public
- Dispel misconceptions
- Improve accessibility – technically; financially; small businesses
- Develop incentives
- Benchmarking discussions with international schemes
- Government Buying Standards (GBSs)?
- BPRs - extension to Scotland?





Thank you!

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For full details of the Standard and the Scheme:

planthealthy.org.uk