

# IPSN NEWSLETTER



**IPSN**

International Plant  
Sentinel Network

## Plant Health Week

»» 2026 Special Edition



**From Sentinel to Steward:  
The role of botanic gardens in  
plant health and biosecurity**



# PLANT HEALTH WEEK SPECIAL ISSUE #3

2

Welcome to our special May edition of the IPSN Newsletter! In celebration of International Plant Health Day and National Plant Health Week, this special edition highlights the vital role that botanic gardens and arboreta play in global plant health and biosecurity.

Far more than places of beauty and recreation, these institutions are uniquely positioned to support the early detection of emerging pests and diseases through their diverse living collections, which serve as sentinel sites for plant health monitoring. They are also important centres for education and community engagement, inspiring visitors, volunteers, and staff to become active participants in protecting plant health.

In this issue, you will find stories and updates from around the world showcasing innovative projects, collaborative efforts, and opportunities to get involved in safeguarding plant diversity and highlighting the importance of plant biosecurity.

## WHO ARE WE?



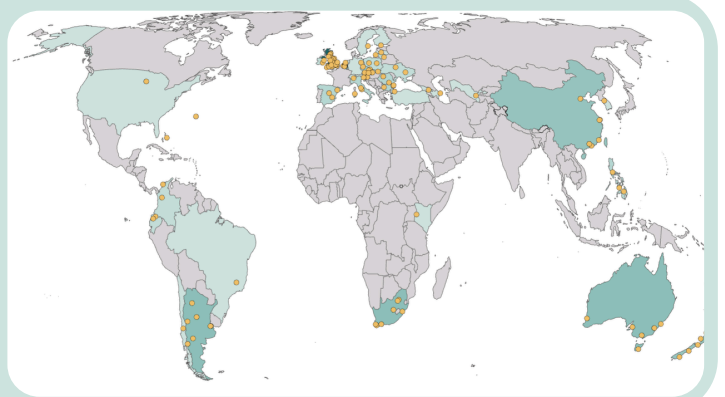
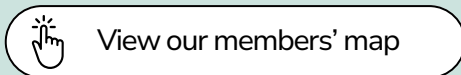
Coordinated by Botanic Gardens Conservation International (BGCI), the International Plant Sentinel Network (IPSN), is a global collaborative initiative that brings together botanic gardens and arboreta, research institutions, National Plant Protection Organisations (NPPOs), and plant health experts to strengthen plant health and biosecurity.

By using living collections as biosecurity sentinels, the IPSN provides an international early warning system for emerging plant pests and diseases, enabling timely detection and coordinated responses to new threats. Through collaboration, knowledge exchange, and practical tools and resources, the network supports gardens and arboreta in protecting plant diversity, natural ecosystems, and agricultural systems.

### 123 MEMBERS WORLDWIDE

A warm welcome to our newest members from:

- O.V. Fomin of the Taras Shevchenko National University of Kyiv
- Agro-Botanical Garden of Cluj-Napoca



We are excited for the network to grow further, collaborate with professionals and experts across regions, and inspire more organisations to join our mission of safeguarding the world's plants.

**JOIN  
THE  
IPSN**

### Are you interested in plant health and biosecurity?

Join the IPSN to connect with diagnostic experts, collaborate on plant health initiatives, and access the resources of an international network dedicated to safeguarding plant health.



The diverse living collections maintained by botanic gardens and arboreta represent an invaluable resource for plant health monitoring.

By bringing together thousands of native and non-native species from around the world, often growing outside their natural ranges, these collections can act as biosecurity sentinels – detecting pests and diseases that may pose a threat to other regions.

Through general monitoring, targeted surveys, and strategic sampling, gardens and arboreta contribute to the early detection of emerging threats, improve our understanding of pest and pathogen distribution and host range, and produce data that supports research, risk assessment, and plant health preparedness efforts worldwide.



## GENERAL SURVEILLANCE

General surveillance plays an increasingly important role in strengthening global plant health resilience. By taking a broad approach to monitoring plants and looking widely for unusual signs and symptoms, it aims to detect emerging or previously unrecorded threats. This approach is particularly valuable in botanic gardens, where diverse living collections featuring plants from across the world can provide important opportunities for the early detection of new pests and diseases before they spread.

Through the IPSN, botanic gardens can undertake general surveillance during the growing season, primarily throughout spring and summer. Participating gardens are provided with general observation forms to record the condition of selected host plants and note any signs or symptoms of concern, such as unusual leaf damage, dieback, discolouration, cankers, or insect activity. By joining these IPSN-spearheaded initiatives, gardens can screen target host species for emerging pests and diseases, serving as an important early warning system for potential threats.



Importantly, gardens are not expected to identify pests or diseases themselves. Instead, observations are shared during regular post-survey meetings with expert diagnosticians, creating valuable opportunities for collaborative assessment, group learning, and, where necessary, further diagnostic investigation. Another key strength of the initiative lies in its collaborative approach. Botanic garden staff, plant diagnosticians, and National Plant Protection Organisations (NPPOs) work together within a shared framework, creating a forum in which all stakeholders can make meaningful contributions to the success of the programme. By combining horticultural expertise, diagnostic capability, and regulatory knowledge, initiatives such as these help improve preparedness and support more effective responses to emerging plant health risks.

## Reciprocal cross-regional general surveillance

A compelling example of cross-border general surveillance is the collaboration between the UK and New Zealand. Over the past five years, botanic gardens in New Zealand have monitored plant species of particular importance to the UK, including:

*Quercus robur*



*Quercus petraea*



*Fagus sylvatica*



*Pinus sylvestris*



*Picea sitchensis*



*Rosa spp.*



By monitoring these species in New Zealand, a different geographic and climatic context, participating gardens have helped identify pests and pathogens that could threaten the same species in the UK, providing valuable early intelligence.

Building on the success of this initiative, the IPSN is now seeking to engage botanic gardens and arboreta across the UK to monitor plant species of significance to New Zealand.

This reciprocal approach highlights one of the most powerful benefits of international sentinel plant programmes: the opportunity for countries to help safeguard one another's plant resources through coordinated surveillance, shared expertise, and knowledge exchange. By working together across regions, botanic gardens and arboreta can make a unique contribution to global plant biosecurity and strengthen our collective ability to anticipate and respond to emerging plant health threats.



### Does your collection include New Zealand species?

We are inviting UK gardens that maintain plant species of importance to New Zealand and are willing to carry out simple visual screening using the IPSN Plant Health Checker.

**CALL  
TO  
ACTION**

No specialist diagnostic expertise is required; participants will receive guidance, training materials, and access to plant health experts who can help assess any unusual signs or symptoms.

By joining this initiative, participating gardens will contribute to a reciprocal surveillance programme in which the UK and New Zealand help safeguard one another's plant resources through shared monitoring and knowledge exchange.

 [Register here](#)

If your garden would like to get involved, please register by clicking above to receive further information and details regarding the next steps.





Targeted surveillance and sampling are essential parts of effective plant health preparedness and complement broader general surveillance activities. Unlike general surveillance, which focuses on detecting unusual signs and symptoms more broadly, targeted surveillance is directed towards specific pests or pathogens of concern. These approaches help improve understanding of species distribution, host associations, and pathways of spread while also supporting early detection and evidence-based plant health decision-making.

Botanic gardens and arboreta are uniquely positioned to contribute to these activities because of the diversity, maturity, and provenance of their living collections. Many gardens harbour important collections of trees and plant species that may otherwise be underrepresented in traditional surveillance programmes. Through collaboration with diagnosticians and National Plant Protection Organisations (NPPOs), gardens can produce observational and sampling data to support national and international plant health preparedness efforts.

### Targeted surveillance and baseline surveys

One important approach involves baseline surveys for target organisms of concern. These surveys aim to improve understanding of whether specific pests or pathogens are present or absent within a region and help address important gaps in current distribution knowledge. Such information is highly valuable for regulatory authorities and NPPOs, supporting risk assessments, preparedness planning, and evidence-based regulatory actions.

Botanic gardens and arboreta are particularly well placed to contribute to these activities because of the diversity and provenance of their living collections.



Recently, the IPSN has collaborated with botanic gardens across the UK to undertake targeted monitoring of holm oak collections, helping to improve the understanding of the presence and distribution of pests such as holm oak phylloxera (*Phylloxera quercus*) and holm oak scale (*Nidularia pulvinata*) across the UK.

These surveys demonstrate the important role that gardens can play in generating valuable plant health data for species that may otherwise receive limited attention through traditional broad surveillance programmes.

Holm oak bark scale

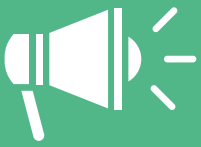


Holm oak gall midge



Holm oak gall Phylloxera





## CALL TO ACTION

 [Register here](#)

### Does your collection include beech species?

We are inviting gardens that grow *Fagus* species and are willing to conduct simple visual monitoring for organisms of concern, including Beech Leaf Disease, *Petrakia* leaf spot, and beech scale.

No specialist diagnostic expertise is required; participants will receive survey guidance, training materials, and support from plant health experts to help assess any unusual observations.

By taking part, your garden will help strengthen knowledge of the distribution and occurrence of these organisms across botanic garden collections.

If your garden would like to participate, please register by clicking above to receive detailed survey guidance and information regarding the next steps.

Beech leave disease



Beech scale

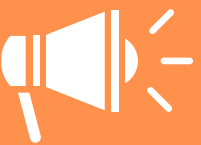


*Petrakia liobae*



## Targeted visual surveillance and sampling:

A second important approach involves targeted visual monitoring and sampling for organisms of concern. In these activities, gardens conduct visual inspections of selected host species and organisms, collecting samples where symptoms are observed. Samples can then be examined by expert diagnosticians, helping improve understanding of disease occurrence, host associations, and potential pathways of spread.



## CALL TO ACTION

 [Register here](#)

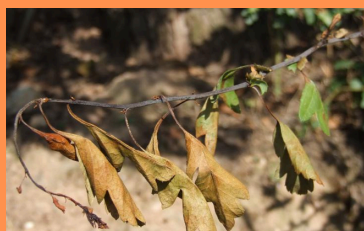
### Interested in hawthorn monitoring and sampling?

The IPSN invites you to participate in targeted monitoring and sampling of hawthorn collections for fireblight and rust (*Gymnosporangium* species).

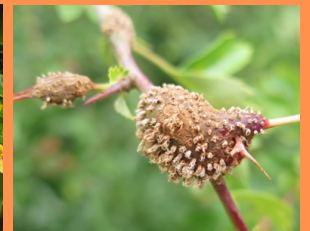
By joining this initiative, you can contribute valuable information to ongoing plant health surveillance and diagnostic activities while supporting collaborative efforts aimed at improving preparedness for emerging plant health threats.

Register by clicking below to receive further information on sampling protocols and next steps.

Fireblight



Rust (*Gymnosporangium* species)





# RESOURCES TO SUPPORT MONITORING

## Pest and disease posters and factsheets

The IPSN continuously develops practical monitoring resources to support plant health surveillance in botanic gardens and arboreta. These include a growing set of posters, factsheets, and survey forms covering globally significant pests and diseases, which are produced in collaboration with expert plant pathologists and entomologists.

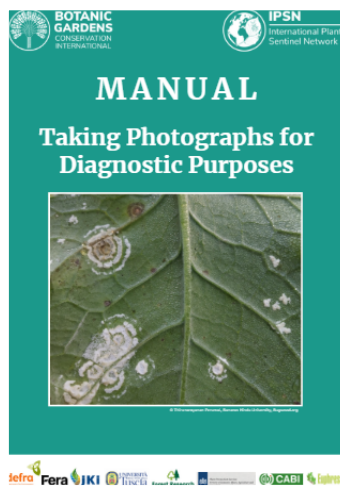
Our posters spotlight specific pests, diseases, and host plants, showcasing symptom images to aid in identification. Their accompanying factsheets, which are accessible via QR codes on the posters, provide additional information on the organism's distribution, host range, and biology.



## Plant health guides and manuals

A decade ago, the IPSN produced a series of practical guides and manuals tailored for botanic garden staff and volunteers and designed to strengthen diagnostic and surveillance capabilities.

Recently updated, these resources cover various topics, including best practices for submitting photographs for diagnosis (accessible in both English and French). Clear and accessible, the materials help staff develop the knowledge and required skills to support plant health and biosecurity activities, thus improving the stewardship of plant collections.



# LIVING COLLECTIONS AS EDUCATION AND COMMUNITY HUBS

As trusted educational institutions that welcome visitors of all ages and backgrounds, botanic gardens are uniquely positioned to raise awareness of plant health and biosecurity and to engage civil society in protecting the plants and ecosystems upon which we all depend.

Healthy plants are essential for biodiversity, food production, climate resilience, and cultural landscapes. Yet increasing global trade and travel, together with changing environmental conditions, are accelerating the spread of invasive pests and diseases worldwide. Addressing these threats requires not only the work of scientists and regulators, but also the active participation of the public. Plant biosecurity is a shared responsibility, and botanic gardens and arboreta provide ideal spaces to communicate this message and inspire practical action.

Through exhibitions, interpretation panels, workshops, guided tours, citizen science activities, and volunteer programmes, gardens can help visitors understand what plant biosecurity means, why prevention matters, and how simple actions – such as sourcing plants responsibly, cleaning footwear and tools, and reporting unusual symptoms – can contribute to healthier landscapes and ecosystems. In doing so, they transform visitors, volunteers, and staff into informed and empowered plant health advocates.



## RESOURCES FOR PLANT HEALTH EDUCATION

To fully realise their potential as centres for education and public engagement, botanic gardens and arboreta need high-quality resources that translate complex plant health concepts into clear, accessible, and engaging learning experiences.

Well-designed educational materials can help living collections educators, interpreters, and communicators explain why plant health and biosecurity matter, illustrate how pests and diseases spread, and inspire visitors of all ages to take simple actions to protect the plants and ecosystems around them.

By equipping educators with practical tools that are scientifically robust and easy to use, these resources enable gardens and arboreta to strengthen their outreach programmes and foster a broader understanding that safeguarding plant health is a shared responsibility.

## New educational resources from the BeXyl project

A major milestone in this work was the recent launch event held at the Real Jardín Botánico de Madrid-CSIC, where the educational resource kit developed through the BeXyl project was officially presented. Coordinated by the IPSN in collaboration with partners at the CSIC-IAS and IVIA research institutes in Spain, these resources were designed to help botanic gardens and arboreta engage visitors of all ages in learning about plant biosecurity and the bacterium *Xylella fastidiosa*.

The kit\* includes posters, interpretive materials, educational activities, and practical guidance that can be used in exhibitions, school programmes, family events, and outreach activities. Together, these materials make complex scientific concepts accessible and engaging while highlighting the critical role that botanic gardens can play as centres for education.

**\*Resources only available in Spanish**



### Use the BeXyl educational resources in your garden

We invite botanical gardens, arboreta, and other living collections to download and use the free educational resources developed as part of the BeXyl Project.

**CALL  
TO  
ACTION**

By clicking below, you can access a collection of posters, activities, and interpretive materials designed to help engage visitors of all ages in learning about plant health, plant biosecurity, and *Xylella fastidiosa*.

 Access here

**Educational resource kit**

**Use them  
Share them**

Help promote the role of botanical gardens and raise awareness about *Xylella fastidiosa*

Access free resources designed for different audiences and formats  
(social media, information boards, educational activities, presentations, etc.)

Scan the QR code to access the resources:

- 1 Download 
- 2 Use them in your facilities, social media 
- 3 Take a photo 
- 4 Share on your social media: 

Always use:  
#BeXylProject @REA\_research @BeXylproject



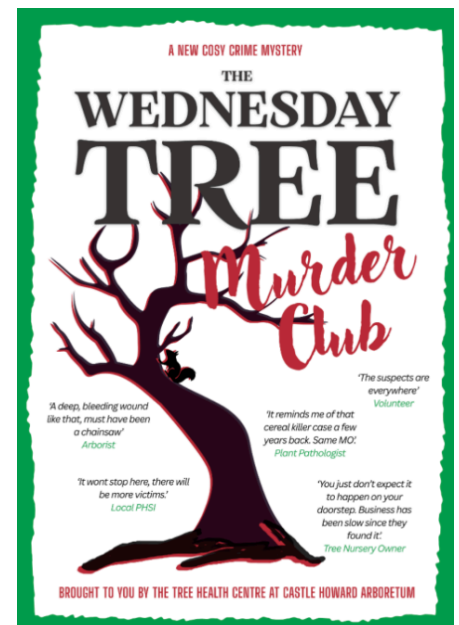
# COMMUNITY BUILDING AROUND PLANT HEALTH

Botanic gardens and arboreta play an important role in connecting people with plants and fostering a sense of shared responsibility for protecting the natural world. Through volunteer programmes, citizen science initiatives, guided surveys, and community events, these institutions bring together people of all ages and backgrounds to learn about plant health and biosecurity while contributing in practical and meaningful ways. Whether monitoring collections, helping with educational activities, or promoting good biosecurity practices, volunteers demonstrate that everyone has something to contribute to safeguarding the plants and ecosystems upon which we all depend.

These initiatives do more than strengthen surveillance and outreach efforts – they build communities of informed and engaged individuals who understand that plant biosecurity is not solely the responsibility of scientists and regulators, but a collective effort that requires awareness and action at every level. By empowering local communities to recognise plant health threats and adopt positive behaviours, botanic gardens and arboreta help translate knowledge into lasting impact.

In the recent blog published as part of the IPSN Blog Series, [“The Wednesday Tree Murder Club: Investigating Clues and Protecting Yorkshire’s Trees”](#), Ginette Alexander from [The Tree Health Centre at Castle Howard Arboretum](#) describes a community taking action.

The article spotlights a dedicated volunteer group that meets each Wednesday to survey the arboretum’s living collections for signs of pests and diseases, fostering learning, connection, and a sense of purpose. The blog highlights the benefits of these initiatives, demonstrating that plant health and biosecurity are not solely the domain of specialists, but areas where anyone with an interest and attention to detail can make a meaningful contribution.



## Share your story with the IPSN community

We invite you to showcase your unique experiences, expertise, and innovative projects through the [IPSN Blog Series](#).

By contributing an article, you can share your work with a global audience, inspire other institutions, and highlight the importance of botanic gardens and arboreta.

If you would like to contribute to the IPSN Blog Series, please read the guidelines by clicking above and/or contact the IPSN team.

We would be delighted to help you share your story and highlight the valuable work taking place at your institution.

**CALL TO ACTION**

 [Blog guidelines](#)



**We hope you enjoyed  
reading this special  
edition!**

**Share your questions, insights, or ideas with the  
network by emailing:  
[ipsn-l@listerv.bgci.org](mailto:ipsn-l@listerv.bgci.org)**

**You can also reach out to our team directly using the  
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Eva Morisot: [eva.morisot@bgci.org](mailto:eva.morisot@bgci.org)

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collection information in [PlantSearch](#).**



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