



## Plant Health Alliance

### The Plant Healthy Certification Scheme and *Xylella fastidiosa*

The growing number of non-native plant pests that have either been introduced to the UK or are considered as a threat if introduced, has been well documented. In 2013, in response to ash dieback, the Scottish Tree Health Advisory Group discussed an assurance scheme for the biosecurity and health of forestry trees and seed in Scotland. However, it was recognised that for a scheme to be effective it would need to cover Great Britain and the range of sectors that trade in live plants. Defra's *A Plant Biosecurity Strategy for Great Britain* (2014) mooted certification schemes to improve biosecurity in the trade. In February 2018, at a plant health conference, it was proposed that an assurance scheme for plant health, covering national and international supply chains for ornamental horticulture and forestry plant material was developed. In January 2019 the Plant Health Management Standard was released which sets out the technical requirements for the Plant Healthy Certification Scheme, which was launched in February 2020.

Of particular concern are several plant pests (i.e. invertebrates and diseases) that have broad host ranges. Two plant pathogens: *Phytophthora sp.* (fungal) and *Xylella fastidiosa* sub-species (bacterial) make a strong case for a scheme to cover both the ornamental horticulture and forestry sectors, as both diseases have host ranges extending into the hundreds. This document focuses on *Xylella fastidiosa*, as it is a pest that has not been detected in the UK, and the threat of this plant disease was a principal driver for the launch of the Plant Healthy Certification Scheme.

**Biology and geographic coverage** - *Xylella fastidiosa* is a bacterial disease native to the Americas where it causes disease in many important crops, including citrus, coffee and grapevine. *Xylella* has several sub-species and strains none of which are known to occur in the UK. In mainland Europe, most notably France (Corsica and mainland France) and Italy there have been several outbreaks of different sub-species which have led to significant impacts on plants both in the wider environment and those grown commercially for olive production. In 2016, *Xylella* was detected in Spain for the first time on cherry trees in a nursery on the Balearic Islands. It was found for the first time on mainland Spain in 2017, in almond trees, and in 2019 was confirmed for the first time in Portugal, on lavender. Although EU regulated, there remains some concern about the risk of introduction to the UK via infected host plants. Imported plants for planting are considered to be the most likely pathway for entry. The disease is spread by insects that feed on the xylem fluid, that is the vessel of the plant which carries water. This includes the widespread and common meadow spittlebug, which is the principle insect spreading the disease in Italy and France.<sup>i</sup>

*Xylella* infects a wide range of plants including many garden species, such as cherry, hebe, lavender and rosemary.<sup>ii</sup> New host plants have periodically been identified and added to a growing list of *Xylella* host species, which currently includes 595 plant species.<sup>iii</sup> A recent group of plants (37) added to the list included: *Convolvulus cneorum*, *Elaeagnus angustifolia*, *Ilex aquifolium*, *Phlomis fruticosa*, *Robinia pseudoacacia* and *Santolina chamaecyparissus*. These species are sourced and grown by UK horticultural businesses and used in variety of landscape situations.

Adding to the severity of this pathogen is the difficulty in detecting the disease. Some host plants experience long symptomless periods after infection. Additionally, some hosts are asymptomatic, meaning that such plants look healthy, but could potentially act as reservoirs for the bacterium. This has implications for how the disease is managed and underlines the importance of understanding the difference between unsusceptible, resistant, tolerant and susceptible plant species. The threat from *Xylella* has been taken very seriously in the UK with the *BRIGIT; Surveillance and response capacity for Xylella fastidiosa* project being established to build the UK's capability to prevent establishment of vector-borne plant pathogens and to increase preparedness to respond if introduced.

**Pest Risk Analysis** - As with other quarantine pests, Defra have conducted a Pest Risk Analysis (PRA) to assess the threat level of *Xylella fastidiosa* sub-species to the United Kingdom. This PRA is kept under review to ensure that it remains fit for purpose by taking into account new findings and scientific developments.<sup>iv</sup>

**UK Plant Health Risk Register** – *Xylella fastidiosa* sub-species, along with over one thousand other plant pests, are included in the UK Plant Health Risk Register. The mitigated risk rating of *Xylella* is currently assessed to be 60. This is in the high-risk category of plant pests. There are pests that are assessed to present higher risks to the UK, such as the two-lined chestnut borer (mitigated risk rating of 100) that has sweet chestnut and English oak among its host



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plants and Emerald Ash borer (mitigated risk rating of 75) which infests ash trees, a species of tree which has already suffered due to the introduction into the UK of ash dieback disease (mitigated risk rating of 80).

**Regulatory measures for Xylella** - Defra have identified a number of high-risk host plants and, after consultation with industry stakeholders<sup>v</sup>, introduced new legislation on the 4<sup>th</sup> March 2021. These are a set of more stringent requirements for the import of *Lavendula sp.* (lavender), *Nerium oleander*, *Olea europaea* (olive), *Prunus dulcis* (almond), and *Rosmarinus officinalis* (rosemary) from countries where Xylella is known to occur. Imports are allowed under certain conditions, which include: inspections of the place of production and the surrounding area, testing, pre-export inspections and a one-year quarantine period prior to import.<sup>vi</sup> These measures align with scientific evidence as they also include measures that address the latency periods of the pest in these high-risk hosts.

As previously noted there are many other commonly used plants that are susceptible to Xylella. Factsheets have been produced by the BRIGIT research project that cover a number of these species, including: oak, ash, maple, plane, Spanish broom and grapevine.<sup>vii</sup> Imports of all plants for planting now require a Phytosanitary Certificate and the movement of all plants for planting between professional operators within GB requires a Plant Passport.

**The Plant Health Management Standard (PHMS)** – The PHMS provides a set of additional voluntary measures that aim to complement regulatory measures. The PHMS is a systems approach to plant health and biosecurity and can be considered, with regard to the management of plant pests and diseases, as follows: Many traditional approaches are reactive; they rely on end-point inspections to detect infested plants and do not address unknown pathogens or pests. In contrast, systems approaches are proactive; they aim to reduce the risk of infestation by correcting unsafe nursery practices for all plant pathogens and pests.<sup>viii</sup>

### Some key aspects of the Plant Healthy Certification Scheme

**Site Pest Risk Analysis** – is an approach at the core of the PHMS. This systematic process aims to assess all of the pest pathways on the site and methodically assess the pest risk associated with all host plants handled and how these risks are managed to achieve an appropriate level of protection for the operations on and related to the site.

**Supply chain management** – Both national and international supply chains present the risk of introducing and spreading pests to new areas. Due diligence checks are required on all registrant's suppliers. It aims to encourage a cultural shift within the sector from simply adhering to plant health regulatory measures, to trained personnel, with plant health duties, taking greater pest risk responsibility for their part of the supply chain.

**Traceability systems** – PHCS auditors check a registrant's traceability systems. This ensures that, in the event of a notifiable pest detection, the registrant can effectively assist with pest containment on and beyond their site.

**Training and responsibility** – designated and trained personnel for plant health management are required, along with evidence as to how they deliver a registrant's plant health policy and procedures. Identification, monitoring and reporting of pest occurrences within a business and when to contact the appropriate authorities is a key focus.

**Technical Advisory Group** - A requirement (4.8.1) of the PHMS is to demonstrate a system of self-assessment, review and continual improvement. This also applies to the PHMS itself which will be reviewed periodically by a Technical Advisory Group to improve its effectiveness. The group will include plant health specialists and professional operators. There are certain roles that voluntary measures can perform and other roles that are the responsibility of regulation. Ideally there is a close relationship between good standards and good regulations. Good standards, if used widely by the industry, can minimise the need for regulations being developed. Further, when it is deemed necessary to draft regulations, good standards are a useful reference for the design of effective regulations.

**Summary** – In the last few years, research findings have vastly improved our knowledge of *Xylella fastidiosa*. This has enabled evidence-based regulations of high-risk hosts to be designed and implemented. There are many other Xylella host species and it is critical that horticulturalists and foresters know the range of susceptible plants and are in a position to adopt proactive systems approaches to reduce the risk of Xylella to an appropriate level. Importantly, the PHMS is designed to help prevent all plant pests and diseases, that is, the plant pests we know are present and the pests we are yet to identify.<sup>ix</sup>



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### References

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- <sup>i</sup> <https://planthealthportal.defra.gov.uk/pests-and-diseases/high-profile-pests-and-diseases/xylella/>
- <sup>ii</sup> <https://www.rhs.org.uk/advice/profile?pid=1037>
- <sup>iii</sup> <https://www.efsa.europa.eu/en/news/xylella-37-new-plant-species-added-host-list>
- <sup>iv</sup> [Updating the UK Rapid Pest Risk Analysis for Xylella fastidiosa Defra Risk and Horizon Scanning Team 14th September 2017](#)
- <sup>v</sup> <https://hta.org.uk/uploads/assets/29a6d1fc-f457-4723-8a3a59dfa597bb12/Xylella-Response-Letterv5.pdf>
- <sup>vi</sup> <https://planthealthportal.defra.gov.uk/assets/uploads/UK-Trade-Letter-Feb21-.pdf>
- <sup>vii</sup> <https://www.rhs.org.uk/advice/profile?pid=1037>
- <sup>viii</sup> [Parke, Jennifer L.; Grünwald, Niklaus J. 2012. A Systems Approach for Management of Pests and Pathogens of Nursery Crops. Plant Disease. 96\(9\): 1236-1244](#)
- <sup>ix</sup> [Daniel P. Bebber, Elsa Field, Heng Gui, Peter Mortimer, Timothy Holmes, Sarah J. Gurr \(2019\) Many unreported crop pests and pathogens are probably already present. Global Change Biology, Vol 25 Issue 8 pages 2703 – 2713.](#)