Xylella fastidiosa

Status

- *X. fastidiosa* contains 3 officially recognised subspecies: *fastidiosa, multiplex* and *pauca* which are further subdivided by sequence types.
- EFSA Host list currently includes 563 species many of which are widely grown in Scotland.
- Confirmed vector *Philaenus spumarius* is widespread across Europe. Two other spittlebugs, *P. italosignus* and *Neophilaenus campestris* are vectors under laboratory conditions.
- *X. fastidiosa* currently found in 4 European countries: Italy, France, Spain and Portugal.
- **Italy:** (Apulia region) *X.f. pauca* mainly infects olive but at least 30 other hosts have been identified. It is currently under containment rather than eradication. (Tuscany) ssp. multiplex with multiple host species identified; currently under eradication.
- **France:** (Provence-Alpes-C ôte-d'Azur) X.f. *multiplex* has multiple foci with 6 different hosts; *X.f. pauca* is found at a single site on the Italian boarder and is currently under eradication; Corsica *X.f. multiplex* is present in 350+ foci with 36 host species and is currently under containment rather than eradication.
- **Spain**: 3 outbreaks on mainland Europe (Alicante, Madrid & Andalucia) *X.f. multiplex* is currently under eradication.
- Balearic Islands: Widespread infection on all 3 islands. (Majorca) *X.f. fastidiosa* & *X.f.multiplex*; (Menorca) *X.f. multiplex*; (Ibiza) *X.f. pauca*. Currently under containment rather than eradication.
- **Portugal**: 2 separate sites with *Quercus* sp. confirmed as a host; *X.f. multiplex* is currently under eradication.
- Israel: Recent outbreak identified on Almond with subspecies unknown.

A: Adult *Philaenus spumarius*
B: Spittle protecting *Philaenus spumarius* nymphs

Scottish-specific issues

- High risk of introduction through trade with *Polygala, Olea, Rosmarinus, Lavandula, Prunus* and *Nerium* species. All are of particular concern.
- Clear economic consequences for Scottish Nursery and retail horticultural trade following an outbreak

with high likelihood of business failures, e.g. >30,000 plants destroyed in a single nursery in Spain.

- High potential for significant impact on the natural environment with high value habitats such as the Atlantic oak woodland at risk as well as other iconic landscape species such as heather.
- In the event of an outbreak, monitoring and eradication costs would be a significant ongoing burden to the Scottish Government.
- Instigation of vector management through intensive insecticide programmes could impact significantly on the natural environment.

PHC Perspective

Xylella fastidiosa poses the greatest risk to plant health in Europe at the current time with the potential for long distance movement through trade and outbreaks confirmed in two new countries (Portugal & Israel) in the past year. Although the UK is free from the disease there is activity being undertaken within the trade, policy and research sectors that will heighten UK biosecurity and resilience. Three large research projects focused on *Xylella* (POnTE, XF-ACTORS and BRIGIT) are currently ongoing, all of which have PHC members as partners ensuring rapid dissemination of research outputs. These have been supplemented by three projects funded by the PHC that address specific Scottish issues. (i) 'Identify the presence of potential insect vectors of *Xylella fastidiosa* in Scotland' has provided greater detail of the distribution of potential vectors of *Xylella* in the central belt of Scotland and evaluated new methods for the identification of vector species in mixed environmental samples. (ii) 'Risk mapping of the likelihood and impact of a *Xylella fastidiosa* outbreak in Scotland' will deliver risk maps for likelihood of the arrival of *Xylella* together with the consequences for key elements of the Scottish economy (directly and indirectly impacted) in the event of an outbreak. (iii) 'Using modelling to investigate the effectiveness of national surveillance monitoring aimed at detecting a *Xylella fastidiosa* outbreak in Scotland' will establish, through modelling, where national and/or risk-based surveillance monitoring is effective in detecting a *Xylella* outbreak. In addition, it is important to identify which epidemiological parameters most strongly influence the effectiveness of surveillance, to guide where future empirical research should be targeted.

Key Priorities and Recommendations

- Communication with stakeholders to highlight the risks and consequences of accidental introduction through plant movement.
- Engagement with the Scottish public through the media and public advertising, e.g.the "Don't risk it" campaign.
- Ensure close links between scientist across sectors (crop, natural environment & forestry).
- Review risk-based assessment of plant imports to ensure adequate levels of surveillance are maintained.
- Conduct outbreak simulation exercise.