BRIGIT Consortium Meetings 2020/21 - Session 2

New Xylella Data for UK Risk Assessment and Policy

December 16th 2020, 09:00-13:00

Session Lead: Dr Steven White (UK CEH) BRIGIT WP4 Lead

Summary: Xylella is not present in the UK, but should it arrive, then the eco-epidemiology needs to be understood. However, there is a great deal of uncertainty over the UK pathosystem compared to the known outbreak locations. This BRIGIT Consortium Meeting session will present the latest Xylella findings from the BRIGIT project, shedding light on some of the uncertainties in a UK context. The presentations in this session will focus on:

- Vector distribution, densities, host plant preferences and dispersal
- Host plant susceptibility
- Characteristics of the horticultural trade network
- Stakeholder responses to regulation
- Modelling spread in the UK for risk assessment and control.

This session aims to provide UK-specific data to scientists, industry and stakeholders.

Please note that the sessions will be recorded.

Draft Agenda

09:00   Session Welcome - Steven White

09:05   Epidemiological Uncertainties
An inherent challenge for policy in combatting emerging disease is the uncertainty associated with intervention planning in areas not yet affected, based on models and data from current outbreaks. Highlighting the Xylella knowledge gaps in a UK context and how the BRIGIT project fills these.

Flavia Occhibove, Daniel Chapman, Alex Mastin, Stephen Parnell, Barbara Agstner, Rosa Amboage, Glyn Jones, Michael Dunn, Chris Pollard, James Robinson, Mariella Marzano, Althea Davies, Rehema White, Andrew Fearne & Steven White (presenter)

09:20   Insect Vector Distribution, Densities and Host Plant Preferences
Spittlebugs would be potential vectors of Xylella if the disease arrived in the UK. Citizen science data will be presented on the geographical distribution of spittlebugs across the UK and their food plant preferences, as well data on spatial variation in population densities.

Alan Stewart (presenter), Claire Harkin, Mike Wilson, Katherine Lester, Rebecca Cairns, Sam Mugford, Flavia Occhibove, Steven White, Ana Perez-Sierra, Gerard Clover & Sarah Plummer

09:35   Short Range Vector Dispersal
Mark-release-recapture experiments to estimate the movement of adult Philaenus spumarius in grassland communities in northern England. Comparisons will be made with the studies of vector movement in Xylella outbreak locations.

Simon Conyers (presenter), Chris Malumphy, Damian De Marzo & Rachel Down

09:45   Long Range Vector Dispersal
It is well known that a key driver of Xylella spread is attributed to long-distance vector dispersal, but this is poorly understood. Using novel molecular methods, we quantify the long-distance dispersal.

Roberto Biello, Qun Liu, Sam Mugford, Alan Stewart, Claire Harkin, Katherine Lester, Rebecca Cairns, Michael Wilson, Simon Conyers, Duncan Allen, Damian De Marzo, Gerard Clover, Thomas Mathers & Saskia Hogenhout (presenter)

09:55   Host Plant Susceptibility
The UK's environment and host plants are different to that in the outbreak zones in Southern Europe. We detail glasshouse experiments that help to fill this crucial knowledge gap by studying the spread of the bacteria and symptom development in key hosts maintained in different conditions.

Jenny Cole, Adam Bryning, Eleanor Jones, John Elphinstone & Joana Vicente (presenter)

10:05   Summary & Break. A prefilled "poster" will be displayed that summarises the main conclusions in the session. This will be left up over the break.

10:20   Human Behaviour in the UK Trade Network
The decisions made by people in the horticultural trade on sourcing and distribution of plants will mediate how Xylella could travel through the trade network. Here we discuss how the characteristics of business to business relationships can impact potential spread of infected plants and disease management actions.

Chris Pollard (presenter) & Mariella Marzano

10:35   Stakeholder Risk Perception and Potential Responses to Biophysical and Regulatory Contexts
Understanding what stakeholders know about Xylella and how they may respond to different disease and regulatory scenarios is important to help us model and design appropriate management strategies. We will discuss key stakeholder perceptions and relate these to other cases of regulation for complex, unpredictable challenges.

Rehema White (presenter), Chris Pollard, Mariella Marzano, Althea Davies & James Robinson

10:50   Plants for Planting and the Problems of Data
Biosecurity in trade – from nurseries down to consumers - is key to keeping Xylella out of the UK; but what do we actually know about the horticultural industry? Despite an increase in collaborative work with and within the industry, key data limitations remain. We discuss recent developments and data initiatives, and challenges encountered along the way.

Glyn Jones (presenter), Barbara Agstner, James Rainford & Gabriel Rocki

11:00   Summary & Break A prefilled "poster" will be displayed that summarises the main conclusions in the session. This will be left up over the break.

11:15   Modelling Xylella spread in the UK Trade Network
A potential pathway for Xylella to enter and spread in the UK is via the horticultural trade network. If it did arrive, how might it spread and how does this influence where we should be looking for it? We present a model that tracks spread in the UK trade network and show how it can help answer question relating to surveillance and control. This talk builds upon the "Human Behaviour in the UK Trade Network" talk.

Alex Mastin (presenter) & Stephen Parnell

11:30   Modelling Xylella spread in the UK Landscape
Should Xylella be introduced into the landscape, how might it spread and are there locations in the UK that are more likely to be severely effected? We will present a new mechanistic model that utilises data from the BRIGIT project to predict the potential spread of Xylella in the UK. Our results highlight areas of concern that are pertinent for risk assessment and policy.

Flavia Occhibove (presenter), Daniel Chapman & Steven White

11:45   Panel Discussion - Stakeholder Data and Modelling Needs for RA and Policy
Stakeholders to lead the discussion on the needs for data and modelling in risk assessment and policy. Thoughts on new outcomes and desired data.

Ian Toth (Scottish Plant Health Centre), Dominic Eyre (Defra), and Steven White (panel chair)

12:15   Wrap Up. We will detail a list of bullet points to discuss further with policymakers.

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