



Animal &  
Plant Health  
Agency



# Quarantine Pests and Diseases

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[www.gov.uk/apha](http://www.gov.uk/apha)

# Major Pests and Diseases for the UK

- *Xylella fastidiosa* (Bacterial Leaf Scorch)
- *Bemisia tabaci* (Tobacco Whitefly)
- *Thrips palmi* (Melon Thrips)
- *Ralstonia solanacearum* (Brown rot)
- *Clavibacter michiganensis* (Ring rot)
- *Phytophthora ramorum* (Sudden Oak Death)
- *Anoplophora chinensis* (Asian Longhorn Beetle)
- Tuber Spindle Tuber Viroid
- *Liriomyza* leaf miners
- *Xanthomonas arboricola* pv *pruni* (Bacterial Canker of Prunus)
- *Spodoptera frugiperda* (Fall Army worm)

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**HAVE ALL BEEN FOUND IN MY REGION**

# XYLELLA FASTIDIOSA

- Bacterial Disease
- From Mid Americas : Costa Rica
- Arrived on Coffee Plants
- Spread in Europe
- One Interception to date on Coffee plant in London
- No known treatments
- Spread by leaf hoppers injecting bacteria
- Bacteria grows and blocks water vessels
- Difficult to spot, sample and test for
- Consequences of outbreak is severe
- Important to find fast (Interception)
- Over 320 Known genera it attacks
- Several Strains with a different range of hosts



# *X. fastidiosa* impacts – wider environment



# *X. fastidiosa* impacts – early symptoms



*Xylella fastidiosa* (XYLEFA) - <https://gd.eppo.int>

# *X. fastidiosa* impacts – severe symptoms !



*Xylella fastidiosa* (XYLEFA) - <https://gd.eppo.int>

# *X. fastidiosa* impacts – on Lavender



*Xylella fastidiosa* (XYLEFA) - <https://gd.eppo.int>



# *Xylella fastidiosa* & subspecies - implications

- Anyone 'importing' host plants from the EU needs to ensure they are accompanied by a **plant passport** confirming they have been sourced from disease free areas/sites. Plant passporting obligation applies to all 'professional operators'.
- An outbreak could lead to '**host' destruction within 100m, and a 5km-wide zone** banning all host plant movements for **five** years.
- **Period of restrictions:** the requirements for the demarcated area of the outbreak will remain in force for a minimum of **5 years** after official surveys have confirmed that *X. fastidiosa* is not present.
- Important to determine if an interception or an outbreak
- Interception: Shipment destruction

# Xylella Infected Areas:

- Italy
- Spain
- France
- Portugal
  
- Interceptions:
- Germany
- Belgium
- Holland
- Southern Spain
- UK



# Spanish Mainland: Spraying the vectors



- Mass spraying: Lambda-cyhalothrin
- Mass trapping
- Testing of the vectors
- 6 Garden Centres and nurseries have been shut down within the 10Km

# Xylella

## Current requirements:

- Plants to be tested each year regardless of symptoms:
- *Coffea*, *Lavandula dentata*, *Nerium oleander*, *Olea europea*, *Polygala myrtifolia*, *Prunus dulcis*
- All other plants listed are to be tested if suspect symptoms
- ***Polygala myrtifolia* to be tested prior to first movement from each lot**

## New Plants added:

- *Cistus albidus* – white leaved rock rose
- *Convolvulus cneorum* – Silverbush or Shrubby Bindweed
- *Helichrysum stoechas* – Common Shrubby Everlasting or God's flower
- *Lavandula x chaytorae* – velvet lavender
- *Lonicera japonica* – Japanese honeysuckle
- *Teucrium capitatum* - Felty Germander

# Sources of information – for prevention

[https://ec.europa.eu/food/plant/plant\\_health\\_biosecurity/legislation/emergency\\_measures/xylella-fastidiosa\\_en](https://ec.europa.eu/food/plant/plant_health_biosecurity/legislation/emergency_measures/xylella-fastidiosa_en)



PLANTS

European Commission > Food Safety > Plants > Plant health and biosecurity > EU Plant Health legislation > Emergency control measures by species > Xylella fastidiosa

HEALTH

FOOD

ANIMALS

PLANTS

AMR

PLANT HEALTH & BIOSECURITY

Legislation

New EU plant health rules

Emergency measures

Xylella fastidiosa

Long-term measures

Trade within the EU



Non-EU trade

Protected zones

## Xylella fastidiosa

Share

### What is Xylella fastidiosa?

Questions and Answers regarding Xylella fastidiosa: EN  

*Xylella fastidiosa* (Wells et al.) is one of the most dangerous plant bacteria worldwide, causing a variety of diseases, with huge economic impact for agriculture.

It was reported for the first time in the Union territory by the Italian Authorities in October 2013, in the region of Apulia, affecting mainly olive groves. Based on official survey activities, the rest of the Italian territory is still considered to be free from the bacterium. Subsequently, in July 2015, the French Authorities reported the first outbreak of *Xylella fastidiosa* in their territory, in Corsica, and later in France mainland, in the region of Provence-Alpes-Côte d'Azur, affecting mainly the myrtle-leaf milkwort. The bacterium present in the respective Member States has a different epidemiology confirming that the source of infection is different. In both cases, however, the affected

RELATED DOCUMENTS

- [Decision \(EU\) 2015/789](#)
- [Commission database of host plants found to be susceptible to \*Xylella fastidiosa\* in the EU](#)
- [List of demarcated areas in the EU !\[\]\(2ce3fce7bbff3e01af6d3936d3483daf\_img.jpg\)](#)
- [Guidelines for the survey of \*Xylella fastidiosa\* in the EU !\[\]\(b5d7024288cc5e5d65802de395bc00d4\_img.jpg\)](#)
- [Declarations from non-EU countries concerning the status of \*Xylella fastidiosa\*](#)

# Tobacco Whitefly (*Bemisia tabaci*)

- A pest of a wide range of plants, including vegetables, salad crops and ornamentals, and is a **vector of more than 110 viruses**. Such as Tomato Yellow Leaf Curl Virus and Bean Yellow disorder Virus.
- *Bemisia tabaci* is frequently intercepted on ornamentals in the UK, particularly on herbs and Ajuga. The number of these interceptions has risen over last 2 years.
- Now established on the continent spreading viruses
- UK a protected Zone for the pest



# Potato Brown Rot (*Ralstonia solanacearum*)

- Bacterial Rot of potatoes affect solanaceous plants
- Many strains can also affect Banana and pelargonium
- Originated in Egypt
- Washed ware potatoes allowed bacterium to go down the sink through the sewerage system into the rivers
- Grows and multiplies on Deadly nightshade (*Solanum dulcamara*)
- Farm Crops irrigated with contaminated water
- Brassicas not susceptible but can perpetuate the bacterium

## Continued findings:

- 2019: Rother, West Sussex
- 2019: Avon, Wiltshire



# Bacterial Spot of Prunus

(*Xanthomonas arboricola* pv *pruni*)

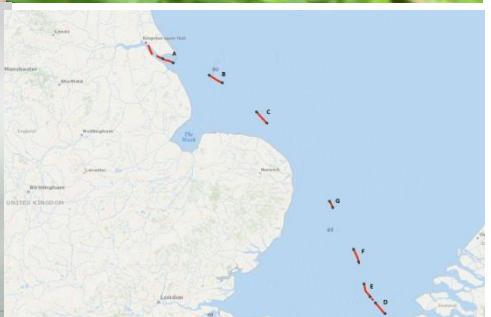
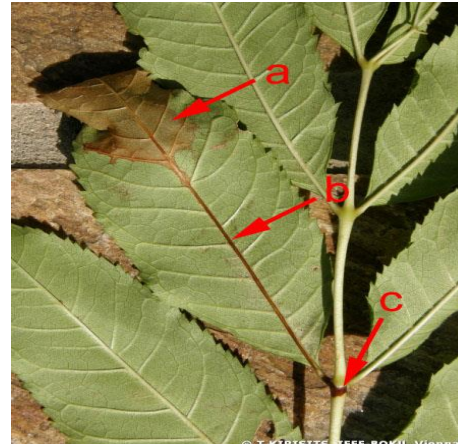
- Bacterial Disease
- Goes on any *prunus* sp.
- Intercepted on *Prunus laurocerasus* and *Punus incisa*
- Serious defoliator of the plant



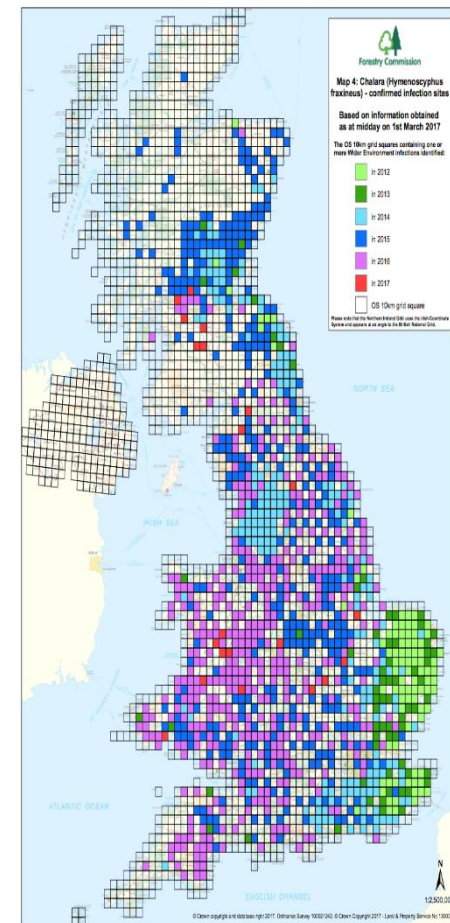
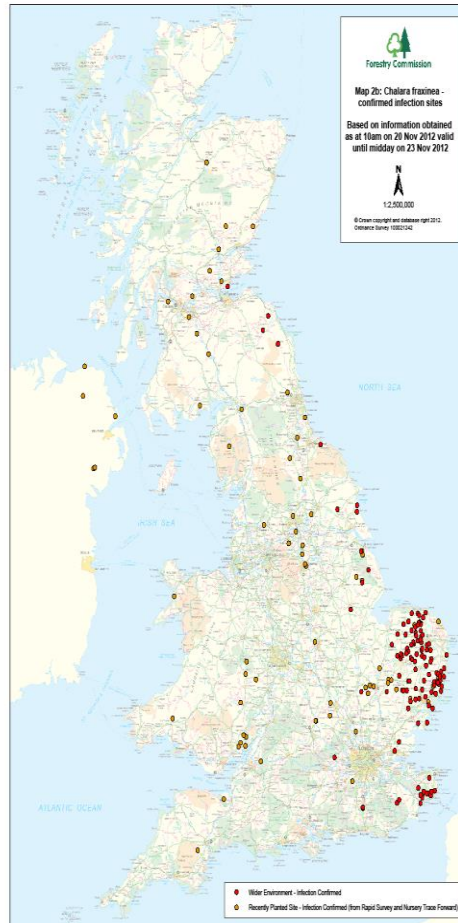


# Ash Dieback (*Chalara fraxinea*)

- 1992 Poland: First described new form of Ash Dieback
- 2006 Sexual stage first described
- 2010 Disease named:  
*Chalara fraxinea*
- 2012 Sexual stage named:  
*Hymenoscyphus pseudo-Albidus*
- 2012 First Case in the UK on imported stock
- 2013 Low infection year.  
Spores found on Cross Channel Ferries
- 2018 Still a movement ban in force



# Ash Dieback Development 2012 / 2013 / 2014/ 2017



# Ash Dieback: Now on other genera

## ***Attacking NEW Genera:***

- Mock Privet (*Phillyrea angustifolia*)
- White Fringe Tree (*Chionanthus virginicus*)



Now a serious Safety Hazzard: Trees 'Crack' off, little warning

# Sudden Oak Death (*Phytophthora ramorum*)

- A fungus attacking a range of hardy stock.

Main movement on plants of Rhododendron, Viburnum and Camellia

Footwear and Airborne spread

- **Attacks woodland trees:**  
Beech / Birch/ Larch
- **Attacks moorland :**  
Heather / Bilberry
- **Attacks gardens:**  
*Viburnum / Camellia / Rhododendron*



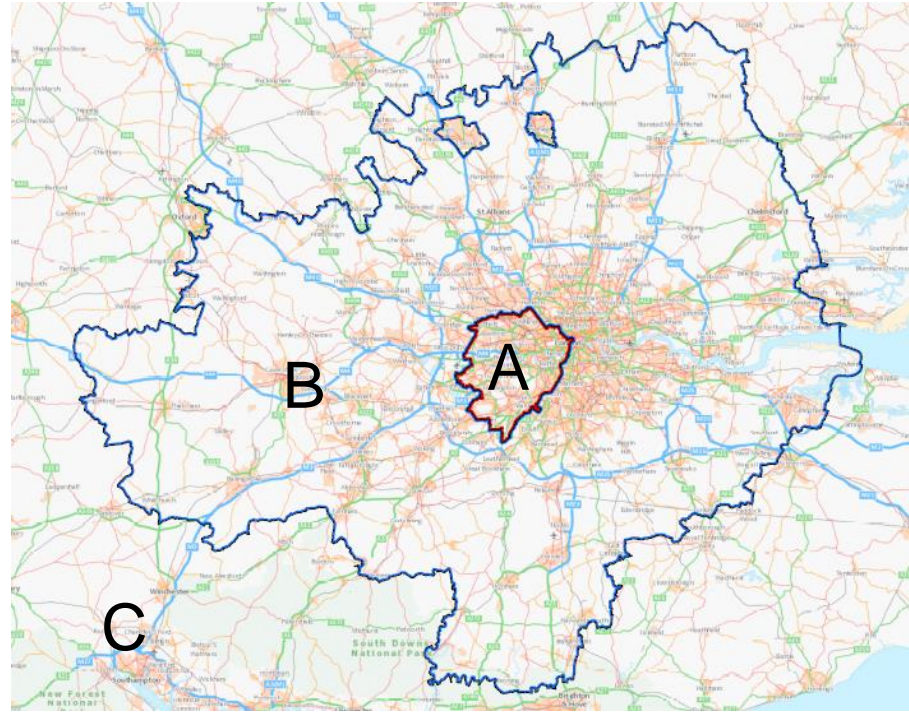
# Oak Processionary Moth (*Thaumetopoea processionea*)

- Origin Balkan Region
- Came on Oak trees
- Not a Plant Health Threat
- Not an Environmental threat
- Its a Human Health Threat
- Its an animal health threat
- Hairs are barbed
- Carry toxin: Thaumetopoein
- Toxin remains active after emergence
- Currently London region Kew / Bromley now south of M25 at Wisley
- Also in Oxfordshire and Dorset
- Using aerial spraying of a bacterium



# OPM Requirements

- Infested Zone **A**
  - Buffer Zone **B**
  - Control Zone **A+B**
  - Protected Zone **C**
- 
- No Quercus (expect suber)
  - Not Allowed entry to PZ
  - Over 8cm Girth at 1.2m
  - Unless from a Buffer Zone or under protection or from a Protected Zone
  - Few EU countries can comply: Ireland



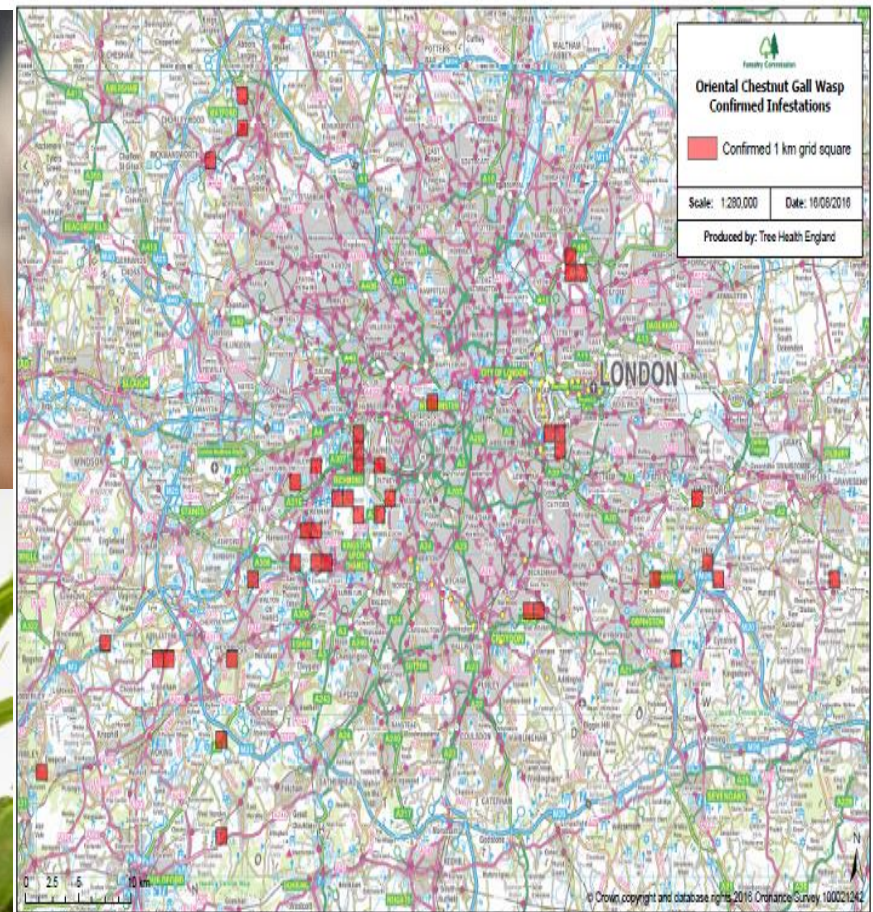
# New Outbreaks: Viruses

- **Imported chilli produce:**
  - Potato virus Y (Non-European strain)
  - Chilli Mottle Virus
  - Pepper Vein Yellow Virus
- 
- **Tomato Crops**
  - Tomato Brown Rugose Virus (UK Outbreak) (new controls Sept 2019)
  - Tomato leaf Curl Virus (New Delhi strain) (EU outbreak)
  - Tomato Chlorosis Crinivirus (UK outbreak)
  - Southern Tomato Virus (UK outbreak)



# New Outbreaks: Sweet Chestnut Gall Wasp (*Dryocosmus kuriphilus*)

- Origin Asia
- 2 Outbreaks in UK initially
- Kent and Hertfordshire
- Now all over London and parts of the South East

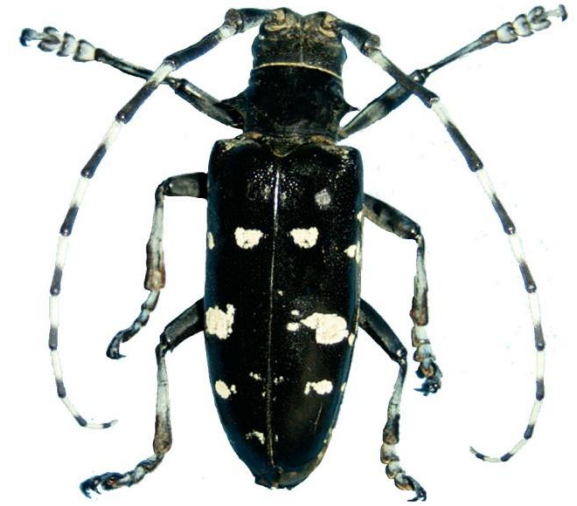




# New Outbreaks:

## Asian Longhorn Beetle (*Anophlophora glabripennis*)

- Asian Origin (Mainly China)
- First outbreak in the UK in natural environment
- Infected wood packaging around slate from China
- 30acre site cleared
- Road hedges, woodland and gardens.



Photograph by Michael Bohne



# New Outbreaks: Sweet Chestnut Blight (*Cryphonectria parasitica*)

- Origin Asia
- 10 Outbreaks in UK
- French Origin Material
- Spread from Italy into France



# New Outbreaks:

## Juniper Root Rot (*Phytophthora austrocedrae*)

- South American Origin
- Outbreaks in Teeside and Scotland
- New outbreaks in Devon
- Biosecurity breakdown by visitors



# New Outbreaks:

## Elm Yellows Virus (*Candidatus Phytoplasma ulmi*)

- Affects Elms in North America
- Imported from Italy
- Spread by the whitebanded elm leafhopper (*Scaphoideus luteolus*)
- Outbreaks in Southern England



# New Outbreaks: Root Knot Nematode (*Meloidogyne fallax*)

- Microscopic worms
- Attack the roots of many crops
- Outbreaks at Football Pitches
- Turf machine coming in from Brazil not cleaned.



# **NEW : *Pseudomonas syringae* pv *ulmi***

- First finding of this disease in the UK this year
- 2 Interceptions now been made on trees from Holland
- Both were to be planted near the National Elm collections in East Sussex.



# NEW OUTBREAK

## European Spruce Bark Beetle *Ips typographus* in Kent

- Found in a Woodland in Kent Dec 2018
- The most destructive pest of Spruce Trees
- Prefers trees over 3m tall
- 3 generations per year
- Carry fungus that attacks the trees



# On the Horizon :

## Pinewood nematode (*Bursaphelenchus xylophilus*)

- North American Origin
- Attacks Pines trees
- Outbreaks in Portugal, Maderia and now northern Spain
- Spread by Sawyer beetles  
(*Monochamus* spp )
- 2013 interceptions in furniture





# On the Horizon : Plane Canker (*Ceratocystis fimbriata* f. *platani*)

- Originates in USA
- Cankers tree stem
- Spread from Italy and into Southern France
- Now as far north as Paris



# On the horizon: Emerald Ash Borer (*Agrilus planipennis*)

- Native to Asia
- Killing Ash trees in North America
- Moving North into Canada
- New findings around Moscow



## On the horizon:

### Granulate ambrosia beetle (*Xylosandrus crassiusculus*)

- Very small (2-3 mm) beetle that is a pest of many broadleaved trees. Introduced to Italy in 2003 and has now spread to France.
- Attack usually kills younger trees
- Infestation leads to distinctive toothpick strands of frass
- Pest Alert released Nov 2015 asking for signs of the pest to be reported



## On the horizon:

# Japanese Chafer Beetles (*Popillia japonica*)

Polyphagous – trees, shrubs and grassland; present USA, Canada & Italy, native of Japan; 300 hosts.

Life cycle 1-2 years, larvae feed on roots.



Photo by Thomas Shahan  
Oregon  
Department  
of Agriculture

## On the horizon:

# Spotted Lantern Fly (*Lycorma delicatula*)

- Native to Northern China and attacks a wide range of fruit, ornamental and woody trees.
- Sap Suckers (Especially on the Tree of Heaven)
- Nymphs will feed on a wide range of herbaceous plants.
- It will survive cold winters.



## On the horizon:

# Red Necked Longhorn Beetle (*Aromia bungii*)

- Originates in Asia
- Hosts: Prunus (Fruit and ornamental)
- Moves in Trees and Pallets
- Outbreaks in Italy and Germany
- 2 to 4 year Lifecycle
- Large larvae burrows through the wood



# Sources of information

Search for 'UK Plant Health Portal' <https://planthealthportal.defra.gov.uk/>

## UK Plant Health Information Portal

An online hub for plant health information, data and resources

Enter the name of a pest or plant you are interested in



Alternatively, use [additional searches based on risk register priorities for actions](#)

### About the UK Plant Health Information Portal

There are many pests and diseases that can seriously damage crops and plants in the UK. Assessing and understanding these threats is essential to informing the actions needed to protect plant health set out in [Protecting Plant Health - A Plant Biosecurity Strategy for Great Britain](#).

As the Strategy makes clear, tackling threats to plant health is not just a matter for government; success is dependent on partnership working between all those with a role to play. To this end the Portal is a shared resource providing information about plant pests and diseases, including the assessments of risk undertaken by government and the data underpinning those assessments, with links to other sites of interest, including non-government sites, as well as information on the plant health controls and services provided by government.

Latest news (see all)



### Pest Alert:

#### *Bemisia tabaci*

- The tobacco whitefly, *Bemisia tabaci*, is a pest of a wide range of plants, including vegetables, salad crops and ornamentals, and is a vector of more than 110 viruses. It is unlikely to establish outdoors in the UK, but it could establish under protection.
- Bemisia tabaci* is frequently intercepted on ornamentals in the UK, particularly on poinsettia, *Nerium oleander* and *Mandevilla*. The number of these interceptions has risen in 2015.

Fig. 1. Pupa (fourth larval stage) of *Bemisia tabaci*. Photo courtesy of Fera.



Fig. 2. Adult *Bemisia tabaci*. Photo courtesy of Fera.



### Pests and diseases

Find out more about the plant pests and diseases which threaten our crops, trees, gardens and countryside.

- [Reporting a pest/disease](#)
- [Contingency planning](#)
- [Pest and disease alerts](#)
- [High profile pests and diseases](#)
- [Pest and disease factsheets](#)

## UK Plant Health Risk Register



Department for Environment, Food & Rural Affairs

### UK Risk Register Details for *Xylella fastidiosa* Wells *et al.*

#### Risk Records for this Pest

- Xylella fastidiosa* (all other strains and subspecies)
- Xylella fastidiosa* subsp. *pauca* and related strains
- Xylella fastidiosa* subsp. *multiplex*
- Xylella fastidiosa* subsp. *fastidiosa*



Department for Environment Food & Rural Affairs

### Plant Pest Factsheet

#### *Xylella fastidiosa*



Figure 1. *Polygala myrtifolia* infected by *X. fastidiosa* subsp. *multiplex* in Corsica. Photo: Bruno Legendre, Anses Plant Health Laboratory, Angers (FR)



Figure 2. Bacterial leaf scorch of Oak (*Quercus robur*). Photo: John Hartman, University of Kentucky (Bugwood: Forestry Images images)

#### Background

The bacterial pathogen, *Xylella fastidiosa*, colonises xylem vessels; and when the vessels become blocked, disease symptoms are produced, which include wilts, diebacks, stunts and leaf scorches. The bacterium is spread by xylem feeding insects, such as the meadow spittlebug (*Philaenus spumarius*), a very common species in the UK and Europe.



# Thankyou

- **Any questions?**



Asian Longhorn Beetle Larvae