

### Plant Health – an update from the front line

Landscape Institute, Healthy Plants, Healthy Places: Embedding biosecurity in landscape projects

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Helen Long
Senior Plant Health & Seeds Inspector

#### Overview

- Examples of recent major outbreaks
- The costs and consequences of getting it wrong
- Recent Government initiatives & sources of information
- Legislation versus the inspection reality
- Some current threats on the horizon yes, do have nightmares!
- How industry can help with good practice and biosecurity

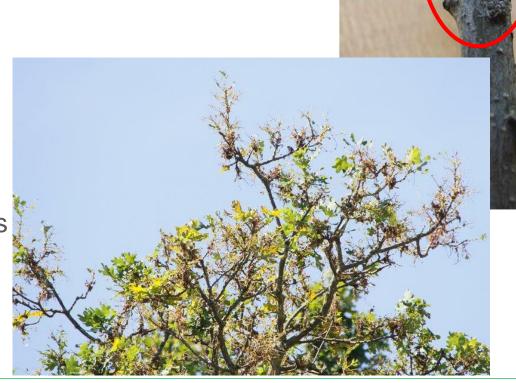
## Some recent examples of major outbreaks....





### The real cost of a major outbreak

- Oak Processionary Moth
- Egg masses imported in 2006 on semimature Oaks used to landscape a housing scheme
- Now established in Greater London and surrounding counties
- Major defoliation damage on a range of Oak species
- Human and animal health impacts including respiratory problems
- Local authorities, public attractions and parks engaged in costly annual spray control programmes
- Annual Operational budget £1.2M+ Ongoing indefinitely



### The real cost of a major outbreak

- Asian Longhorn Beetle adult found in 2009 at a stone importer in Kent
- Follow up surveys conducted for several years with small outbreak found in 2012
- Sanitary felling and disposal of 2166 host trees / plants
- Restrictions on replanting of host species
- Intensive follow up surveillance activity for 7 years to confirm outbreak eradicated, including APHA & FC Inspectors, contracted tree climbers and tree surgeons



Total cost of outbreak £2M

# Ash dieback expected to cost British economy nearly £15bn

Biggest cost of tree disease will be loss of benefits such as clean air and water, study finds



▲ An ash tree showing symptoms of ash dieback near Canterbury, Kent. Photograph: Gareth Fuller/PA

#### Palmageddon? Britain's palm trees face extinction after killer beetle discovered









### What are the consequences of Xylella?

- Value that could (in theory) be damaged by Xylella:
- Around £500m per year quantifiable (£160m Sycamore trees, £320m Oak trees, £25m
   Prunus sp.) Many other potential hosts not included in this estimate
- 7% of this £500m per year is susceptible to Xylella if the outbreak is either small scale or wide scale with a timely response (~£30m/year is protectable)
- Only 1% of this £500m per year is protectable if the outbreak is wide scale with containment or delayed response (~£5m/year is protectable

(Source Defra Plant Health Economist)

- An single infected plant outbreak could lead to 'host' destruction within 100m, and a 5km-wide zone banning all specified plant movements for five years.
- Currently 60+ genera/species listed as EU host plants; 300+ listed as specified plants worldwide

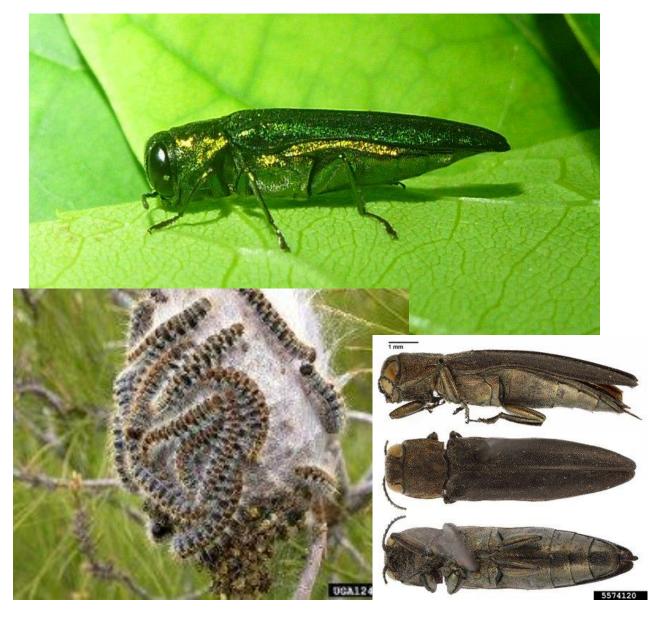
### What are the consequences of Xylella?

- Plant movement and waste disposal restrictions will apply to all premises in demarcated areas including nurseries, retailers, parks, residential gardens, historic properties, shows, events...?
- **Restrictions** will remain in force for a minimum of **5 years** <u>after</u> official surveys have confirmed that *X. fastidiosa* is not present.
- Restrictions on replanting of host plants in infected areas what's not on the list?
- New hosts would be added to plant passporting, some could be prohibited from import
- Implications for UK exports of becoming an 'infected country' increased testing and certification costs for exports, prohibitions on some trades
- All 'professional operators' i.e. landscapers, designers, and anyone importing plants into the UK are now subject to the same stringent conditions as growers

### Are you worried yet?

There are 47 other known tree pests and diseases that could arrive in Britain and which may cost an additional £1 billion or more

- Benefits of trees and plants is valued in the millions of £'s
- Most benefits provided by plants/trees are derived from e.g. social well being, water & air purification and carbon sequestration
- Additional risk associated with food security as some plant pests endanger food crops
- Early intervention, <u>if successful</u>, has significant positive cost/benefits



#### Recent Government Initiatives

- EU Plant & Tree Notification scheme requires notification of first arrival into UK of all:
- Castanea (Chestnut Blight, Oriental Chestnut Gall Wasp)
- Fraxinus (\*no movement as no UK Ash dieback disease free areas)
- Quercus (Oak Processionary Moth, Chestnut Blight, Oak Lace Bug)
- Olea since Nov 2018 (Xylella)
- Pinus (Pine Processionary Moth, Pine Wood nematode, Red & Brown needle blights)
- Platanus (Plane Wilt)
- Prunus (Xylella, Red-necked longhorn, Xanthomonas arboricola pruni)
- Ulmus (Elm Yellows Phytoplasma, Elm Zig Zag sawfly, Oak Lace Bug)
- Notifications selected for physical inspections will continue after EU-Exit

### Legislation versus the inspection reality....





### Legislation versus the inspection reality....

- Semi mature trees are imported dormant = out of main season for symptom expression for most pests and diseases, latency periods vary
- Physical size and weight of specimens = access and health & safety issues, affects quality of inspection possible on site
- Impossible to inspect all imported consignments = risk based selection criteria applied
- Rapid speed of trade movements = resource intensive and time consuming to trace
- Distribution chain is non-linear = one consignment, multiple recipients across the UK
- The bigger the plant specified, the bigger the ecosystem that travels with it e.g. nematodes; termites; flatworms; poisonous spiders, scorpions and millipedes; tree frogs....
- Packing material, pallets and wooden bracing can also pose a risk of hitch hikers think longhorn beetles, Asian Hornet, Pine Wood nematode, non native species

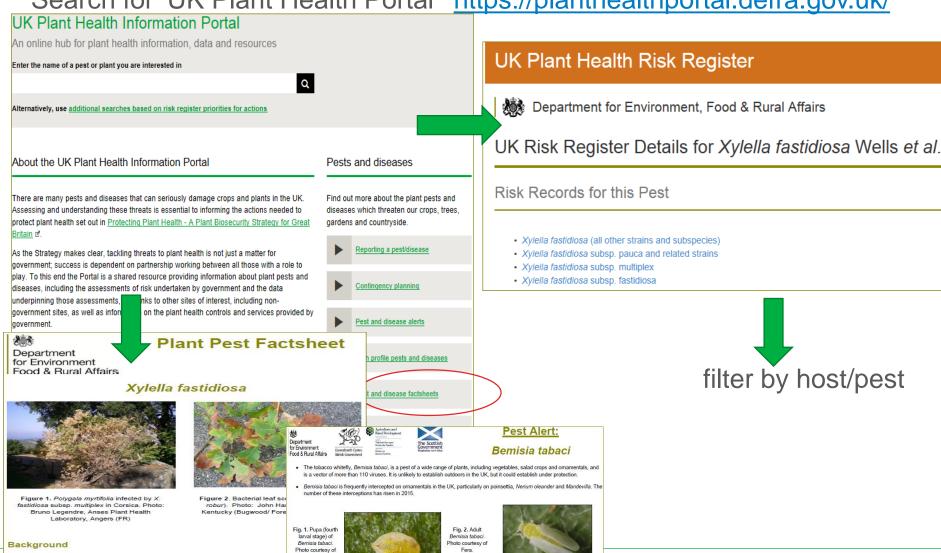
#### Sources of Information

- UK Plant Health Portal latest info and pest factsheets
- https://planthealthportal.defra.gov.uk/
- UK Plant Risk Register more than 1000 pests and diseases risk assessed with country distributions
- https://secure.fera.defra.gov.uk/phiw/riskRegister/
- APHA Topical Issues pages <a href="https://www.gov.uk/guidance/protecting-plant-health-topical-issues">https://www.gov.uk/guidance/protecting-plant-health-topical-issues</a>
- Forestry Commission Pest & Disease resources:
- https://www.forestresearch.gov.uk/tools-and-resources/pest-and-disease-resources/
- Observatree pest field identification guides, webinars, top 21 priority P&D for citizen science https://www.observatree.org.uk/

#### Sources of information

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

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



#### Sources of information

 APHA Topical web pages on gov.uk <a href="https://www.gov.uk/government/organisations/animal-and-plant-health-agency">https://www.gov.uk/government/organisations/animal-and-plant-health-agency</a>



Food & Bural Affairs UK Plant Health Guidance Document

Animal & Plant Health Agency

#### Xylella fastidiosa Implications for

importers and users of trees, shrubs and herbaceous plants

This guide is intended for growers, retailers, landscapers, garden designers, traders and anyone involved in **importing and professional use of plants**, including from within the EU.

#### **Key Points**

- There are known outbreaks of Xylella fastidiosa in Italy, France (Corsica and mainland France), Germany and the Spanish islands of Mallorca and Ibiza.
- An outbreak in the UK could lead to destruction of host plants within 100 m, and a 10 km movement ban for host plants for five years.
- The host list is likely to increase and includes trees, shrubs and herbaceous.
   Keep checking:
  - http://ec.europa.eu/food/plant/plant health biosecurity/legislation/emergency measures/index en.htm
- Landscapers, designers, retailers and anyone directly importing plants are
  now subject to the same stringent measures as growers and suppliers. A new
  plant passporting obligation for all 'professional operators' has been
  introduced, which requires that the movement of all 'host plants' across the
  EU must be accompanied by a plant passport.
- 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.
- Be vigilant for signs of X. fastidiosa and report any sightings.

### Current threats on the horizon: Xylella fastidiosa

- Check the EU commission website for the latest maps of the outbreak demarcated areas updated 10<sup>th</sup> April 2019
- https://ec.europa.eu/food/sites/food/files/pla nt/docs/ph\_biosec\_legis\_list-demarcatedunion-territory\_en.pdf
- Current outbreaks:
- Italy (Apulia and NEW Tuscany)
- France (Cote's d'Azure, Corsica)
- Spain (Valencia and Madrid), all Balearic Islands
- NEW Portugal (Norte)
- KNOW THE HIGH RISK SPECIES can you substitute?



### Current threats on the horizon: Xylella fastidiosa

 Scale of demarcated area in Spain Valencia is 80,000 Ha, with all the implicit official controls in place

#### Recent Interceptions:

- Intercepted on olive plants in Belgium autumn 2018
- Intercepted in a growing crop of Polygala in Almeria, Spain in Spring 2018
- EFSA opinion highlights concerns that Xf sits within olive for long periods asymptomatic. Latency is years rather than months.



#### Current threats 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, prior to or during leafing up
- Infestation leads to distinctive toothpick strands of frass
- Pest Alert released Nov 2015 asking for signs of the pest to be reported







### Current threats on the horizon: Oak Lace Bug

- Corythucha arcuata
- First found in Italy in 2000, now in 11 EU countries and spreading
- Attacks Quercus and other broadleaved trees including Acer, Carpinus, Fagus, Tilia, Ulmus
- Symptoms: yellowing and browning of foliage then premature leaf drop, reduced vigour
- Pathway is imported trees check undersides of leaves for nymphs and adults



### Current threats on the horizon: Red Necked Longhorn Beetle

#### · Aromia bungii

- Wood boring pest of *Prunus* (apricot, peach, plum, cherry inc *P. cerasifera*)
- Outbreaks under eradication in Germany and Italy. Widespread outbreak around Naples area, Italy.
- Pathway: imported trees. Adults may also hitchhike on wood pallets and packaging
- Long larval life cycle up to 3 years
- Larvae push out copious frass on top of pots or soil



- For **contractors/designers**, ensure that plants you use have been ordered early and **monitored** for disease in a low risk area, before being planted at their final destination
- When purchasing from other EU member states or 3<sup>rd</sup> countries, think about quarantine pest presence Defra risk register can help.
- Do you really need a very high risk species (e.g. mature Olives!) or can you specify a lower risk alternative? Educate yourself and your clients about the risks
- Source from known suppliers and/or visit suppliers to view their processes, procedures, bio-security arrangements and the plants they grow.
- Ask! Are plants coming direct from your chosen supplier or being topped up from a third party grower? Trade will always find a way to meet an order if they don't have the stock themselves.
- Make sure that imported plants both originate from and are sourced from disease free areas. Details on infected areas for a range of outbreaks on EU Commission web pages at <a href="http://ec.europa.eu/food/plant/plant">http://ec.europa.eu/food/plant/plant</a> health biosecurity/legislation/emergency measures/index en.htm

- When buying / planning contracts in advance, build in plant health to your quality standards and audit processes.
- Build monitoring for pest and disease into maintenance contracts after planting consider length of pest lifecycle & disease latency.
- Comply with the UK national requirements to notify the UK Plant Health Service about certain species of plants under the 'EU Plant and Tree Notification Scheme'.
- Complete the plant healthy self assessment which set out key questions for trade to answer (20 or so) to self-asses their biosecurity <a href="https://hta.org.uk/assurance-compliance/plant-healthy.html">https://hta.org.uk/assurance-compliance/plant-healthy.html</a>
- Use the assessment to join the Plant Health Assurance Scheme that Defra seed funded last year with HTA <a href="https://hta.org.uk/assurance-compliance/plant-health-assurance-scheme.html">https://hta.org.uk/assurance-compliance/plant-health-assurance-scheme.html</a> to develop and improve your biosecurity. Industry lead scheme (supported by Defra and APHA) and looks to all in procurement to ask for in future.

- Ensure that plant passports arriving with plants are correct and keep the plant passport to aid trace back if necessary.
- Label and keep records of the identity of all received batches of plants including: where the plants came from and when
- Isolate or quarantine new batches of plants and monitor them during the growing season for signs of
  the disease whilst not a legal requirement it is good practice to place 'imported' hosts of Xylella in a
  quarantine area ideally a good distance away from other host plants and if possible place under
  physical protection. If any outbreak is confirmed all 'host' material within 100m will need to be
  destroyed.
- Stock control and separation; internal plant movements between sites.
- Incorporate plant health into in house training and skills with QA/QC systems and agronomists. Have
  a 'what to do if....' and 'who to contact if....'
- Raise P&D alerts at your internal team briefings retail level, buyers, QA/QC, maintenance crews.

- Have a set feed back route for staff queries or suspect problems and include details of the 'goods': label, plant passport or batch details, genera, pot size, bar code, 'returns' and trace back etc.
- Seasonality and don't let quarantine pests and disease 'drop off the radar', as plants move from warmer countries or protected environments to cooler countries for retail or growing on.
- Destroy old or unusable plants methods you use?
- Maintain records of any pesticide treatments
- Attend events such as this to raise awareness of the risks

#### **Bio-security**

#### Before arrival

SOURCING PLANTS – Suppliers (visit them), Origin, Plant type, Assurance schemes, Check supplier/country plant health status

#### At arrival

QUARANTINE – inspection on arrival/ QC, holding period, traps

#### On site

MANAGEMENT - Plant culture, hygiene, water, waste, self monitoring, recording, training













# Thank you!