



Pest risk analysis and how it can protect Irish Plant Health

Plus some new things for the UK!

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Why do we need to analyse risks to plant health?

- ▶ Because when we fail to identify, analyse and mitigate against risks to plant health there can be major consequences
- ▶ *Xylella fastidiosa* is one of the biggest threats to European plant health since the invasion of the Colorado beetle



Xy



Xylella f



Why do we need to analyse risks to plant health?

- ▶ Identifying risks earlier can mean regulations can be put in place to help keep them out
- ▶ *Rose Rosette Virus* has devastated rose plantations in the USA but will soon be an EU regulated pest

Why do we need to analyse risk to plant health?

- ▶ It is important to keep risk analyses up to date with what is happening in the industry
- ▶ Box tree moth wasn't judged to be a risk to Canada due to a lack of box, but then a box industry grew up and is now threatened by the pest



What is Pest Risk Analysis

- ▶ Under international trade laws, phytosanitary measures against trade must be **technically justified**
- ▶ PRA is the accepted method to justify regulation of pests and pathways
- ▶ Pests can not be regulated at an EU level without a PRA
- ▶ A PRA scheme for Ireland has been developed as part of the DAFM funded FORM project



What is Pest Risk Analysis?

- Identify potential threats and assess:
 - ▶ Can they enter?
 - ▶ Will they establish and spread?
 - ▶ Will they be damaging?
 - ▶ How can we prevent introduction or limit damage?
- ▶ Pest focused or pathway focused

*The process of evaluating biological or other scientific and economic evidence to determine whether an **organism is a pest**, whether it should be regulated, and the strength of any phytosanitary measures to be taken against it*



Horizon Scanning

- ▶ Horizon scanning is the process by which new pest threats are identified
- ▶ Industry can play a role by highlighting new trades/new sectors

New Trades

- ▶ Often risks associated with new trades may not be discovered until interceptions are made at the border
- ▶ Import of fresh mosses and lichens from the USA is an example of a trade that could introduce new and dangerous pests
- ▶ These are harvested directly from forests, and may contain the eggs of the hemlock looper a highly damaging moth species



How do pests enter?

- ▶ There are a huge number of pathways which pests can enter by
- ▶ PRA looks at each pathway, deciding the likelihood of entry on that pathway, so that pathways can be appropriately regulated
- ▶ Plants for planting are a very high risk pathway



How do pests enter?

- ▶ There are a huge number of pathways which pests can enter by
- ▶ Fruit and cut flowers/foilage are lower risk pathways

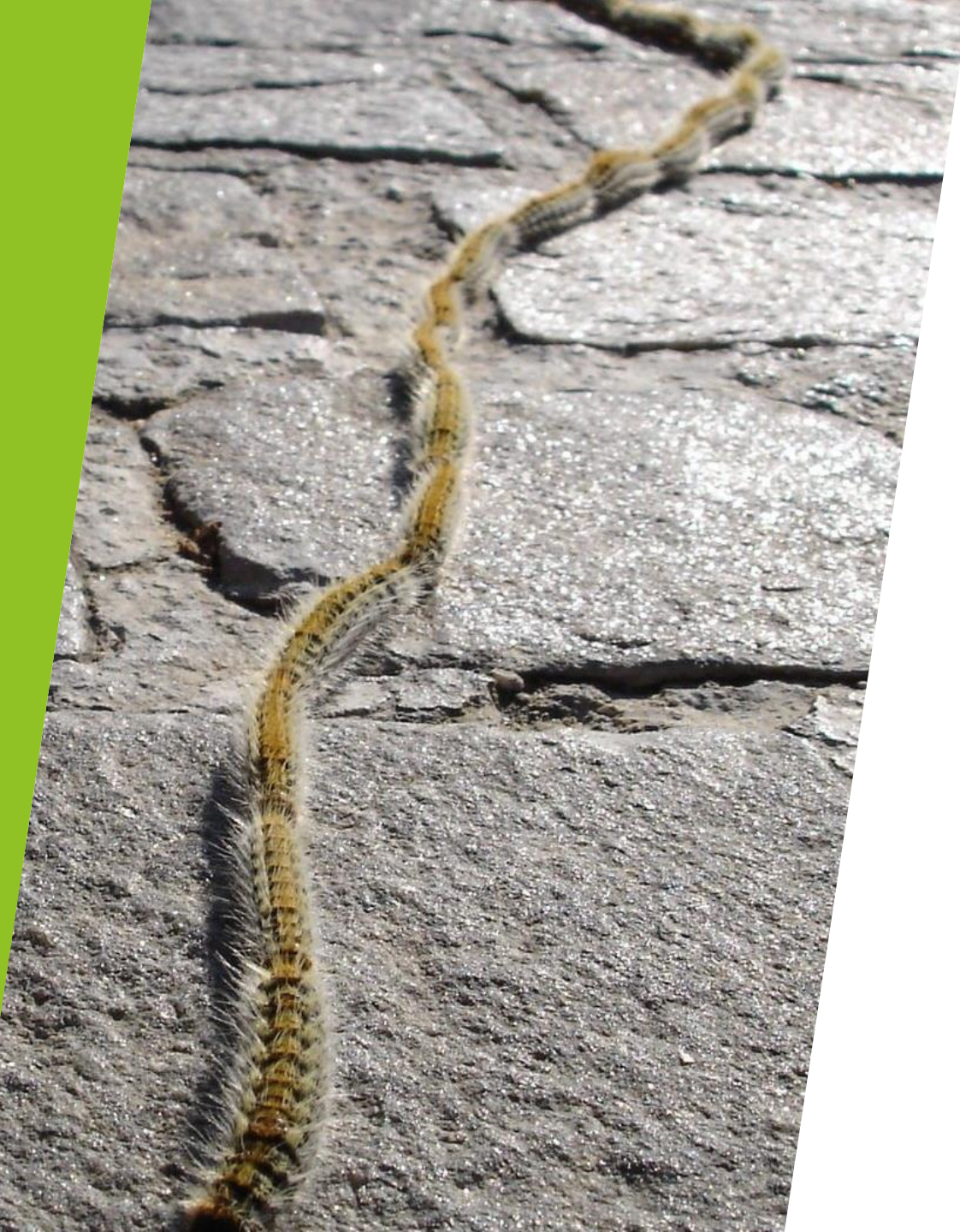




How do pests enter?

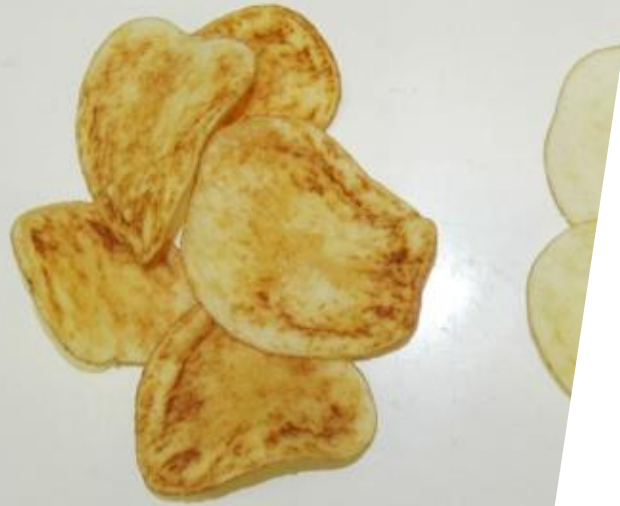
- ▶ There are a huge number of pathways which pests can enter by
- ▶ Wood and wood products are also a pathway of entry





Establishment

- ▶ For a pest to be regulated under international trade laws, you must prove it can establish in your territory
- ▶ Climate change isn't usually taken into account - but with a warming climate pests who would currently struggle to survive in Ireland may soon be able to thrive



Impacts

- ▶ Impacts can be economic, environmental and social
- ▶ Economic impacts of *Xylella* estimate at 1.2 billion euro as of January 2019 - but also huge social impacts for local families
- ▶ Zebra chip can cause losses of up to \$2 million dollars per farm in Texas
- ▶ Rose Rosette Virus has destroyed locations popular with communities





Risk Management

- ▶ The final stage of PRA is to decide if regulation of the pest is technically justified, and if so what measures are appropriate
- ▶ International trade laws require regulations to be as unrestrictive to trade as possible

Protected Zones

- ▶ As an island, Ireland has a major advantage in keeping out pests and diseases that can not arrive by natural spread
- ▶ Protected zones are a type of legislation that allows a Member State to place additional measures on the import of plants and plant products
- ▶ Ireland has more protected zones than any other Member State



Protected Zones

- ▶ It is possible to add new protected zones every year as long as Ireland is free of the pest and that the pest could establish and cause damage
- ▶ PRA can be used to justify protected zone requests to the EU



Industry action

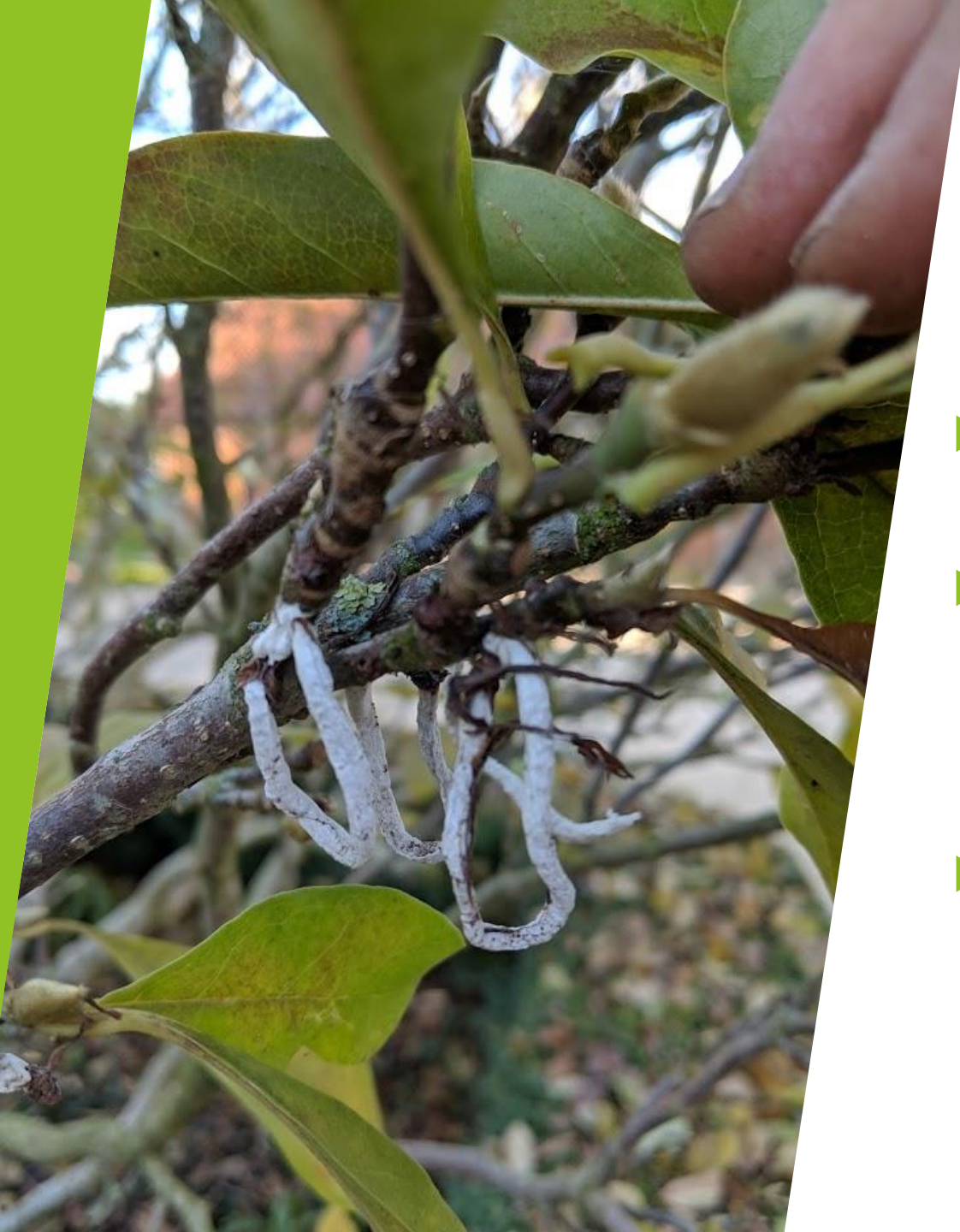
- ▶ Industry or organisations may choose to take additional actions to protect themselves against plant health risks
- ▶ For example, the RHS decided to prohibit the use of nine high risk hosts of *Xylella* unless they were UK sourced and grown across its shows, retail units and gardens
- ▶ *Coffea*, *Hebe*, *Lavandula*, *Nerium oleander*, *Olea europea*, *Polygala myrtifolia*, *Prunus*, *Rosmarinus officinalis* and *Spartium junceum*
- ▶ Imported semi-mature trees are also held in isolation for at least 12 months before use in gardens
- ▶ RHS plant health policy: <https://www.rhs.org.uk/about-the-rhs/policies/plant-health-policy>

Looking at pathways

- ▶ Traditionally, PRA has been done on a pest by pest basis
- ▶ But it is also possible to look at entire pathways e.g. for new trades to see what pests and diseases could be associated

High Risk Hosts

- ▶ The new plant health legislation has designated certain plants high risk hosts that can not be imported from non-EU countries from December
- ▶ They will be subject to risk analysis to assess which pests may be able to enter on the pathway and how best to mitigate against them
- ▶ *Acacia, Acer, Albizia, Alnus, Annona, Bauhinia, Berberis, Betula, Caesalpinia, Cassia, Castanea, Cornus, Corylus, Crataegus, Diospyros, Fagus, Ficus carica, Fraxinus, Hamamelis, Jasminum, Juglans, Ligustrum, Lonicera, Malus, Nerium, Persea, Populus, Prunus, Quercus, Robinia, Salix, Sorbus, Taxus, Tilia, Ulmus and Ullucus tuberosus*



What's new for the UK?

- ▶ My new favourite pest - cotton stringy scale!
- ▶ *Takahashia japonica* - Asian species introduced to Italy and found in UK December 2018 by RHS member
- ▶ Infests a wide range of woody hosts but only aesthetic damage to date

What's new for the UK



- ▶ Large number of oak processionary moth interceptions across Great Britain in Summer 2019 - as far north as Inverness!
- ▶ Led to implementation of stricter import measures on oak

What's new for the UK?



- ▶ Increased number of findings of fig whitefly, *Singhiella simplex*
- ▶ Could become a pest of indoor fig in the UK - main issue is the similarity to *Bemisia tabaci*

Summary

- ▶ Regulations on the import of plants and plant products has to be technically justified under international trade laws
- ▶ Pest Risk Analysis is a powerful tool to help protect plant health and can provide technical justification for regulation
- ▶ As an island, Ireland has an advantage in keeping pests and diseases out and can use Protected Zone legislation to introduce measures for pests present in the rest of the EU
- ▶ Pest threats are ever changing, and need to be identified early - industry has a role to play