Forest Health

Pest Information Note 3 of 2021

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Phytophthora ramorum

Updated: 01/07/2021

Background

Phytophthora ramorum is a harmful pathogen which is known to have over 180 hosts, many of which are tree species. *Phytophthora ramorum* was first noticed in the early 1990s in plant nurseries in Europe and in forests in California. In mainland Europe, it causes a serious blight of ornamental plants, especially *Rhododendron, Camellia* and *Viburnum*. In North America it causes a forest disease called Sudden Oak Death, killing millions of *Quercus* trees in deciduous forests of California and Oregon. It also costs millions annually to the ornamental nursery industry in Europe and North America.

In Ireland, *Phytophthora ramorum* was first detected in 2002 on imported *Rhododendron* and *Viburnum*, and in the wild in 2003 on *Rhododendron ponticum*. In 2010, *Phytophthora ramorum* was found to be infecting trees in Ireland, in particular Japanese larch (*Larix kaempferi*), and has since been recognised as a serious threat as it can cause damage and death of Japanese larch. Sanitation felling of infected Japanese larch stands has been carried-out – based on policy and legislative requirements, in an effort to limit the spread of the disease. By the end of 2020 *Phytophthora ramorum* had been found in Japanese larch at 56 forest locations.

Phytophthora ramorum has also been a major problem for the United Kingdom over the last decade. There have also been limited outbreaks in north western France in Japanese larch in recent years. However, in the rest of the EU, *Phytophthora ramorum* has not yet proved to be a forest health issue of concern being far more associated with the horticultural nursery trade.

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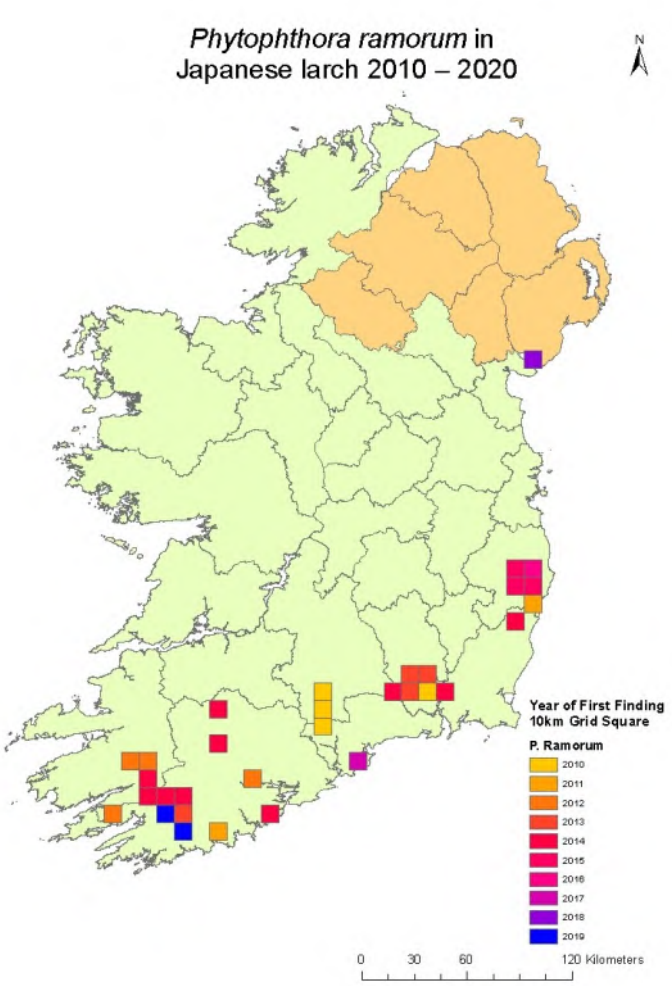
Legislative Background

Following the first findings of *Phytophthora ramorum* in Europe, emergency legislation through Commission Decision 2002/757/EC was introduced in 2002. This was later amended by various other Commission Implementing Decisions. Among the requirements of the legislation where the harmful organism is found is that appropriate procedures to be implemented aimed at eradicating the harmful organism.



At an EU level, the regulatory status of *Phytophthora ramorum* is under review at the Standing Committee on Plant Health and other Commission Working Groups as part of the wider discussions finalising the Annexes to the new Plant Health Regulation 2016/2031. The pathogen has been regulated under EU-wide emergency measures since 2002 and there is an ongoing debate as to whether it should be permanently listed as a quarantine organism under the EU Plant Health regime or whether it should be regulated as a non-quarantine pest (RNQP) or perhaps even deregulated. The most recent consideration of the status of *Phytophthora ramorum* is that EU isolates of the pathogen should now be described as a RNQP one of the consequences of which would be that it would no longer be mandatory to fell forest areas infected with *Phytophthora ramorum* to contain it.

Affected stand of Japanese larch. Note symptoms around the level of the utility wire.

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Identification

Symptoms at a forest landscape level:

- Dead and dying partially flushed trees in groups or scattered throughout the stand
- Canopy may be an abnormal grey/brown colour
- Affected trees may show needle wilt, branch and shoot dieback, abnormal shoot growth

Crown symptoms – note whole or partial crown can be discoloured

Symptoms at stand level:

- Partial or whole crown discolouration, (reddish brown or grey brown depending on level and stage of infection)
- Crown partially flushed (in needle) or not at all
- Crown dieback
- Excessive external resin bleeding in upper crown areas

Individual trees:

- Wilt and dieback of fresh needles with blackening of needles.
- Shoot dieback from tip back along shoot.
- Resin bleeding on branches and trunk
- Excessive side shoot/epicormic growth and heavy cone production may be observed

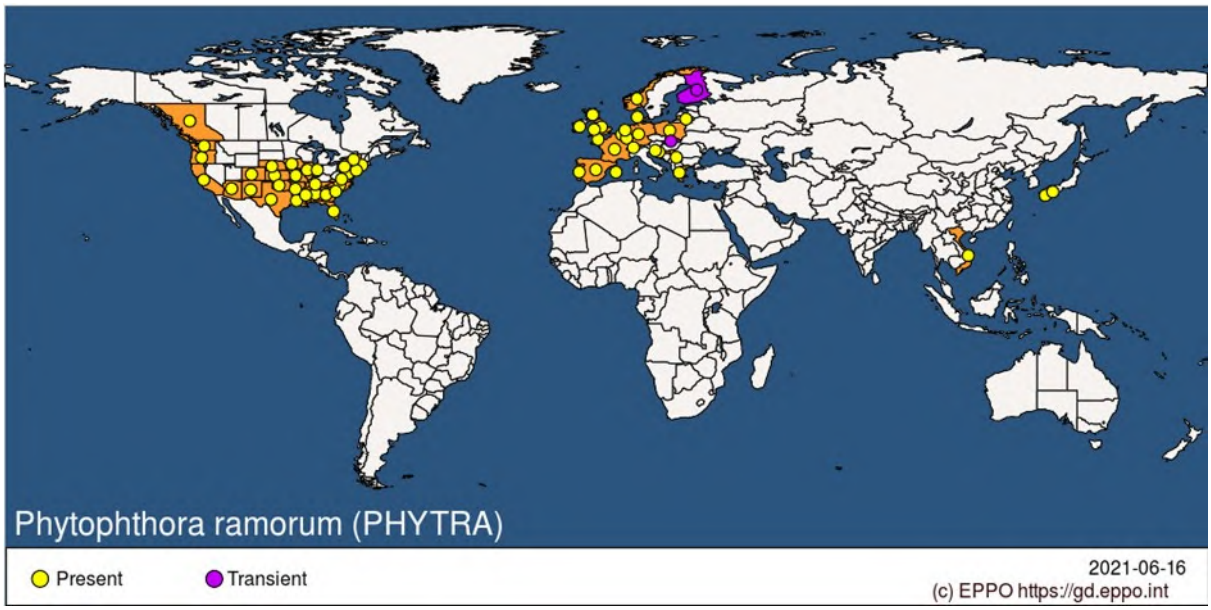
Shoot dieback – note the retention of dead needles

Resin bleeding from the stem

Group of affected trees

Distribution

Phytophthora ramorum is present in parts of Northern America, Europe and Asia (see below).



Hosts

Phytophthora ramorum has 183 hosts, many of which are tree species. Of the ten major hosts, four are tree species. The major hosts are: *Kalmia, Kalmia latifolia, Larix decidua, Larix kaempferi, Notholithocarpus densiflorus, Pieris, Quercus agrifolia, Rhododendron, Syringa vulgaris, Viburnum* (EPPO).

References

Werres S, Marwitz R, Man i't Veld WA, de Cock AWAM, Bonants PJM, De Weerdt M, Themann K, Ilieva E & Baayen RP (2001) *Phytophthora ramorum sp*. nov., a new pathogen on *Rhododendron* and *Viburnum*. *Mycological Research* 105, 1155–1165.

EPPO: https://gd.eppo.int/taxon/PHYTRA