

***Phytophthora ramorum* symptoms on Japanese larch**

The disease caused by the pathogen *Phytophthora ramorum* a fungus like organism, can damage and kill plants and trees it infects. Through recent targeted Forestry Inspectorate surveys infection by *Phytophthora ramorum* has been detected from a number of Japanese larch stands inspected. The attached images can be used as a field guide to the typical symptoms at a forest landscape, stand and tree level. (Note: do not discount the possibility of infection of other species).

Woodland owners and managers and the public are asked to report suspicious symptoms, with photographs if possible to: Forest Protection Section, Forest Service, Department of Agriculture Fisheries & Food 3 West Agriculture House, Kildare Street, Dublin 2 (01) 607 2651. Or by email to: forestprotection@agriculture.gov.ie Your report will be followed-up by a Forestry Inspector. **Please do not take samples from suspect trees.**

Please observe the following hygiene measures, to help avoid any potential further spread of the disease. **Footwear:** Wash off **all soil & plant debris** from boots. Spray your boots with disinfectant and dispose of any used water onto an area where the water will not run into a watercourse. **Clothing:** Check all clothing, including inside pockets and hoods, for any plant material. If clothes are wet, remove and wash thoroughly before wearing again.

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**

Figure 1. Affected stand of Japanese larch. Note symptoms around the level of the utility wire.



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

Figure 2. Group of affected trees



Figure 3. Young affected larch red/brown



Figure 4 & 5. Crown symptoms – note whole or partial crown discolouration



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**

Figure 6 & 7. Shoot dieback – note the retention of dead needles

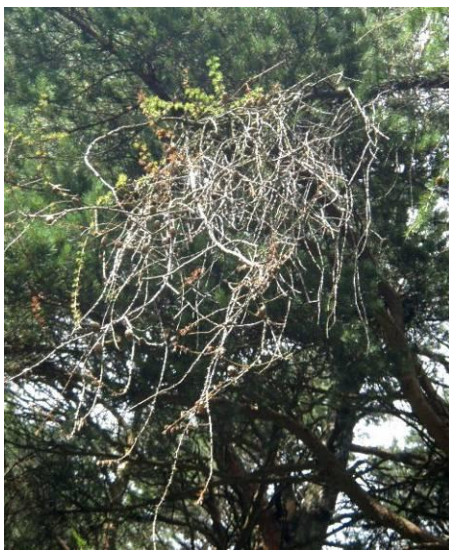


Figure 8. Resin bleeding from stem Figure 9. Side shoot/epicormic production

