

1. This note is a summary of recent information about the developing situation regarding an outbreak of *Phytophthora ramorum* in South West England. The outbreak affects Forestry Commission woodlands and woodlands owned by others.

Background

2. The quarantine disease *Phytophthora ramorum* was first found in the UK in 2002. In the wider environment it has largely been associated with Rhododendron species that act as a host from which spores are produced. When produced in sufficient quantity these can infect trees and other plants in the vicinity. Control efforts in woodlands have focussed primarily on removing Rhododendron. The Forestry Commission, Forest Research and the Food and Environment Research Agency (Fera) have been working together to survey, study and control the disease.
3. During August 2009 at a site in east Cornwall laboratory testing confirmed *Phytophthora ramorum* present in Rhododendron in the understorey of mature Japanese larch (*Larix kaempferi*) as well as on the foliage of young thicket stage Japanese larch in an adjoining area.
4. Subsequent testing at sites in north & west Devon and west Somerset has confirmed the presence of *Phytophthora ramorum* in mature Japanese larch as well as species in its understorey, including Rhododendron, sweet chestnut, beech, birch, oak and Western hemlock. On some sites there is little or no rhododendron present. These findings and those made on the Japanese larch highlight a significant change in the dynamics of the disease experienced to date where tree infection has only previously taken place in proximity of infected Rhododendron.

What we are doing

5. Forestry Commission staff, Forest Research scientists, Fera and others are working very hard to better understand the changes that are being experienced. However work is being hampered by:
 - a. seasonality as the Japanese larch is dropping its needles and shutting down for winter; and
 - b. the difficulty in laboratory confirmation of *Phytophthora ramorum* from samples due to excessive amounts of resin being produced as a result of infection
6. Actions taken to date include:
 - Ongoing investigations of tree symptoms being carried out by Forest Research scientists.
 - Susceptibility testing of Japanese larch logs to *Phytophthora ramorum* (and also to a similar but distantly related disease *Phytophthora kernoviae*) by Forest Research scientists.
 - Molecular DNA analysis of spore levels on infected sites by Fera scientists.
 - Further survey of Rhododendron by Fera followed up with funded Rhododendron clearance agreements where appropriate.
 - Continued vigilance in woodlands managed by the Forestry Commission

Symptoms

7. Information on *Phytophthora ramorum* symptoms experienced to date is widely available on the Forestry Commission's website www.forestry.gov.uk/pramorom. On Japanese larch, shoots and foliage can be affected and are visible as wilted, withered shoot tips with blackened needles. The infected shoots shed their needles prematurely. Trees with branch dieback may have numerous cankers on their branches and upper trunk that can bleed resin. Please see symptoms handout.
8. As Japanese larch along with other deciduous species is now losing its foliage symptoms are very difficult to see. This is also likely to be a period of reduced disease activity. During the winter Rhododendron will still exhibit symptoms so it is important to monitor this as an indicator of disease where it occurs in conjunction with Japanese larch.

What should woodland owners and managers do?

9. Look on the Forestry Commission website www.forestry.gov.uk/pramorom for more information and familiarise yourself with the symptoms and other details.
10. Maintain vigilance and regularly inspect your woods particularly where Japanese larch and/or Rhododendron or sweet chestnut is present. Please note that we are primarily concerned with plantations of Japanese larch in forests and woodland in relation to this change in the disease dynamics.
11. If you suspect your woodland may be infected or suspicious symptoms are present please report it to the Forestry Commission's South West England regional office at Mamhead Castle, Mamhead, Nr Exeter, Devon EX 6 8HD. Tel: 01626 890666; fax 01626 891118; email: fc.sweng.cons@forestry.gsi.gov.uk.
12. The details you will be asked for will include:
 - Name and address
 - Contact telephone and email
 - Location of the woodland concerned (Grid reference or postcode or nearest town)
 - Approximate area and age of the Japanese larch
 - Approximate area of Rhododendron (if present)
 - Is the Rhododendron (if present) showing symptoms?
 - Is there sweet chestnut present?
 - Approximate date when symptoms were first noticed.
13. If you are concerned about an individual garden, parkland or amenity tree then you should contact the Forest Research Tree Health Diagnostic Advisory Service on 01420 23000 or visit www.forestresearch.gov.uk/ddas.



***Phytophthora ramorum* Symptoms in Japanese Larch**

- Wilt and dieback of fresh needle growth
- Dieback extending along branches from growing tip
- Dead needles retained on bud
- Resinous bleeds on branches and main stem which can be in the canopy of mature trees
- May show excessive side shoot growth combined with abnormally high cone production



Phytophthora ramorum* Symptoms in *Rhododendron ponticum

- Wilt and dieback of fresh growth
- Shoot dieback extending down from growing tip often giving a “crook” effect
- Dieback extending from the stem of leaf down the mid-rib and also on the leaf tip - i.e. wherever water collects
- Watery appearance to dieback. On the underside of the leaf infection tend to follow the cell structure and does not have a clearly defined edge