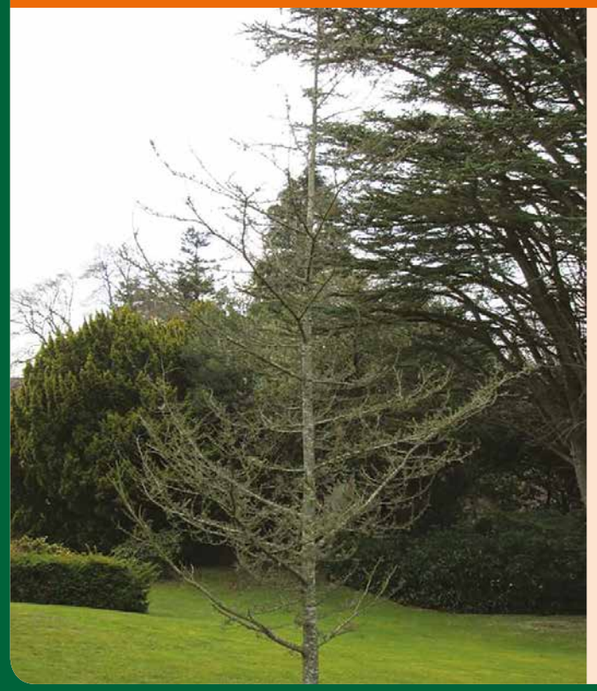
Forestry Commission England

Sirococcus tsugae



In recent years severe shoot blight and defoliation of Atlantic Cedar has been reported from a range of locations in Britain. In late autumn 2013, samples from affected trees were received by Forest Research and the fungus *Sirococcus tsugae* was identified as being consistently associated with these symptoms.

In the United States *Sirococcus tsugae* has been confirmed on both cedars (*Cedrus Atlantica* and *C. deodara*) and hemlocks (*Tsuga heterophylla* and *T. mertensiana*). Recently, it has also been detected on Eastern Hemlock (*T. Canadensis*).

Cedrus and *Tsuga* species are valuable ornamental and forestry species in UK. Although much uncertainty remains concerning the geographical distribution of biology and potential impact of *Sirococcus tsugae* in Britain, it may cause considerable damage to valuable ornamental trees in public and private gardens and economic losses, in particular for the nursery sector.

KEEP IT CLEAN

Don't give pests and diseases an easy ride

If you think you have spotted a new case of this disease, then report it through the Forestry Commission's online Tree Alert form: **forestry.gov.uk/treealert**

Pathways for spread include planting stock, foliage and seeds of infected *Cedrus* and *Tsuga* specimens. All infected material should be destroyed on site, either through incineration or deep burial.

You can help to slow the spread of the pest by practising good biosecurity.

Think kit

Before leaving site; footwear, outerwear and equipment should have all soil and organic material removed and washed clean before being sprayed with an approved disinfectant.

Think transport

Vehicles and machines that have been used where *Sirococcus tsugae* infection is suspected should be cleaned free of all organic material and soil before leaving site.

Think trees

Cedrus and *Tsuga* planting stock should be inspected for signs of this disease before being planted out. Follow up inspections will help to identify the disease early.

Symptoms Guide: *Sirococcus tsugae*

Needle and shoot dieback

In the spring, affected trees display dead needles and dead shoots.

Branch cankers

Affected shoots may also display cankers and gum bleeds.

Pink needles

The dead needles are very distinctive as they have a characteristic pink colour and only become brown as the season progresses.

Fruiting bodies on dead needles

The fruiting bodies of Sirococcus tsugae may be seen on dead needles and on the surface of cankers during the winter months and into the spring.

Branch cankers

Affected branches will often display indistinct cankers; characterised by a slight reduction in branch diameter and a change of bark colour from green to a darker red / purple. If branches are girdled by the disease, they will die.

Symptoms on Western Hemlock *Tsuga heterophylla*

Shoot blight

On Western Hemlock, the disease is most obvious in the natural regeneration in the understory. It can affect one or many shoot tips on a single tree.

For more details, please visit **www.forestry.gov.uk/fr/sirococcus**