



*Wm. Wheat & Son*

**FLORIST & GARDEN CENTRE**

520 Chester Road, Little Aston. WS9 0PU  
0121 353 7123 / 4090    [www.wmwheat.co.uk](http://www.wmwheat.co.uk)



**Gardeners Guide to:**

## Conifer Browning

A recent collaborative research project between the RHS and East Malling Research found cypress aphid to be associated with half of the cases of brown patches investigated. Damage caused by cypress aphid develops in late spring and summer. It is found most often at the base of the hedge, but can develop at any height. Large greyish greenfly are sometimes found, but the browning often develops long after the aphids have left the foliage. Clues are left behind, including cast aphid skins and a black fungal growth (sooty mould) that grows on the sugary honeydew excreted by the pest.

### **Try the following treatments:**

Spray affected areas with a powerful jet of water from a hose to dislodge these pests. Selectively prune infested shoots to reduce populations of aphid, and encourage fresh growth. Be careful not to prune into old wood. Treat from May onwards before colonies become established. Spray in the evening when bees and other beneficial insects are not present. A thorough soaking is required to penetrate the thick foliage.

The best way to keeping a healthy hedge is to look after it both during and after planting, here are some tips:

Avoid exposed and waterlogged sites or select a more appropriate hedging species. Always select healthy plants with a good root structure. Check that roots are not pot-bound.

Plant in well-prepared soil, cultivating 1 square metre of soil around each plant to one spades depth. Water new hedges regularly in the first year. Water established hedges in prolonged dry periods. Apply an annual mulch at the base.

Avoid trimming on scorching sunny days when the conifers are struggling to keep up with the transpiration. After trimming, remove clippings from the top of the hedge. Check regularly for pests and diseases, taking appropriate action immediately.



### **Conifer Mites** (*Oligonychus ununguis* (Jacobi))

Spider mites will affect conifers in a similar way and are hosted by a variety of tree and plantings including spruce, fir, juniper, pine, hemlock and others. Infested trees display mottled foliage that may appear brownish-grey, and needle loss may occur.

To confirm a mite infection, lightly tap the damaged branches over a white paper and examining the paper for reddish-brown mites which are about the size of pepper grains. In heavy infestations, spider webbing may also be conspicuous.

### **Cypress aphids** (*Cinara cupressivora*)

Damage caused by cypress aphid develops in late spring and summer. It is found most often at the base of the hedge, but can develop at any height. Large greyish greenfly are sometimes found, but the hedge browning often develops long after the aphids have left the foliage. Clues are left behind, including cast aphid skins and a black fungal growth (sooty mould) that grows on the sugary honeydew excreted by the pest.



### **How to control conifer mite / cypress aphid**

Provided the damage can be spotted early, before the tree/plants have taken too much damage, both pests can be treated. Spray in early summer to prevent damage occurring. Suitable products contain thiacloprid (Bayer Provado Ultimate Bug Killer Concentrate), acetamiprid (Scotts Bug Clear Ultra)

It is often difficult to spray large dense hedges thoroughly, and in years when the aphid is abundant, some damage will inevitably occur.

Other causes of dieback include drought, scorching caused by wind or extreme temperatures, excessive clipping of a hedge, and root diseases such as honey fungus and *Phytophthora* root rot

The sudden widespread withering of foliage which was observed at the end of last spring and beginning of the summer affecting the popular conifers and is caused by colossal infestations of the aphid *Cinara cupressi*. The colonies (groups of aphids) settle on the bark of young woody twigs creating a kind of sleeve. They feed by piercing the bark and sucking the sap. Unfortunately, the saliva they produce is phytotoxic and leads to necrosis in the phloem (conducting tissue of the sap) which subsequently results in the twig withering.



### **Aphid colonies which infest the cypresses**

**Ants** (which feed on 'honeydew', a sugary substance produced by the aphids) contribute to their diffusion by transferring them from one part of the tree to another, thus creating new areas of infestation. At the beginning of the summer, when the temperature rises and the infestation is at its height, the sap cannot get to its destination (the apex of the leaves) because of the dead areas in its conducting tissues. Consequently, the ends of the twigs in some or all of the foliage suddenly wither. As the weather gets hotter the aphids move down to the earth seeking protection from the summer heat. This is why at this point any form of treatment is useless, because when the first withered areas become visible the vast majority of the aphids are no longer on the foliage. The withered areas caused by the aphids are distinct from those caused by canker because they occur more suddenly, are distributed more evenly, to the extent that the trees seem partially or totally burnt, and there is never any resin discharge.



Sometimes, before the withered areas become visible, the branches turn a blackish colour known as "sooty mould". This is caused when dark-coloured opportunistic fungi colonize the honeydew. Sooty moulds grow on the honeydew which is excreted by the aphids during feeding, and which lands on adjacent branches and foliage. This is a useful confirmation of aphid damage, and may help to exclude other causes of conifer dieback with superficially similar symptoms, which include drought, wind/heat scorching, chemical and de-icing salt damage,

Coryneum Canker, and root diseases such as Honey Fungus and Phytophthora.

By looking carefully, the aphid colonies are visible to the naked eye and can sometimes be identified by following the paths of ants. For treatments to succeed, they must target the first aphid colonies that settle on the tree after hibernation (this takes place in March/April in most areas).

Later treatments are less successful and are useless if carried out after the appearance of the withered areas. The treatment depends on the presence of the aphid that can be detected by shaking the branches so that it falls onto a white cloth placed underneath the tree. The success of the treatment depends on spraying all the foliage, especially the internal branches.

On clipped hedges the dieback can be pronounced and any screening effect lost, although often, lower parts of the plants are more severely affected than the top. The growth habit of these species means that there is likely to be very little re-growth on damaged tissues, and so the visual impact is long lasting.



Originally arriving from southern Europe in the late nineteenth century, the aphid is more common and widespread in the UK in some years than in others, but is most frequent in the south and east of England. Leyland Cypresses were first reported as being infested in the 1980s, with 1988 & 1989 being especially bad years. The frequency of these 'bad years' seems set to increase as our winters become milder - allowing adults to over winter more successfully on plants.

It is not cost effective to treat large hedges, or for an arborist to undertake treatment with professional pesticides, as it is unlikely that either will halt further dieback, or prevent repeat damage later in the year. Badly damaged hedges may recover slowly, but are probably best removed and replanted. The only control for these aphids is to use chemicals applied as a spray in early summer to prevent damage occurring. These treatments will need to be repeated at six-week intervals through the summer months.