About Oak Aphid & Powdery Mildew

elmsavers
Part of the Environmental Tree Technologies Group

Oak Aphid *Myzocallis Castanicola*, is an insect pest that causes significant problems for both European and North American oak species.

Winged Adults and nymphs on the leaf underside of Quercus Robur English Oak, note the "Sooty Mould" in the upper right corner.

Other trees in the *Fagaceae* family such as European Beech are prone to infestation, *Fernleaf* and *Copper Beech* cultivars are very susceptible, Chestnuts are also affected as well.

Oak aphids are small yellow elliptical insects that congregate on the leaf underside, they are also found on soft stems and young tip growth.

The typical indicators to watch out for are increased European wasp and ant activity; both insects are attracted to the sugary secretion known as "Honeydew".

Another associated but secondary symptom is "Sooty Mould," a fungus which grows on the Honeydew secretions produced by this insect.

If left untreated trees will defoliate by late summer, feeding aphids cause significant damage to young leaves by piecing the leaf cuticle which contorts disfiguring the growth pattern.

The excessive Honeydew excreted creates a sticky mess beneath the tree; encouraging European wasps, ants and creating potential human hazards.

Care should be taken with cars and other objects of value as the excretions and sooty mould are detrimental to painted surfaces.

Sooty mould is a secondary fungal problem and the indirect result of honeydew secretions; it can also be unsightly and damaging to surrounding objects such as vehicles.

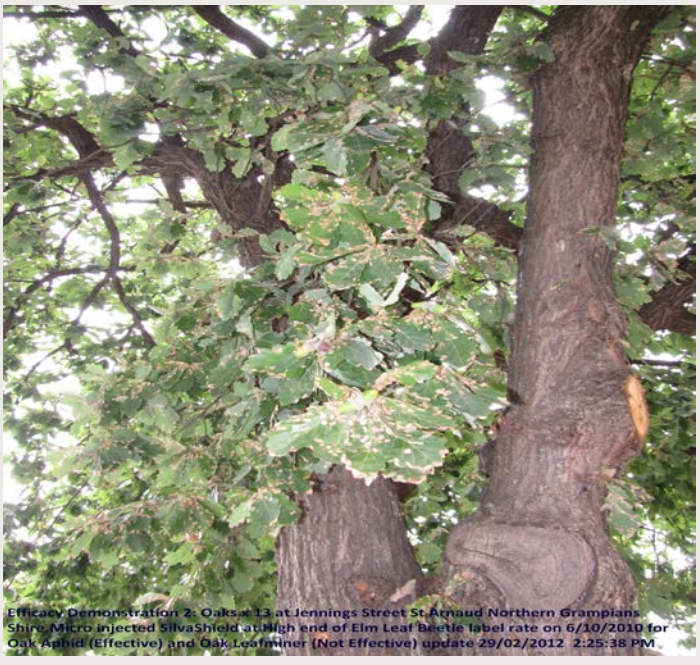
Other Pests

Other invertebrate pests that are of concern are leaf miners, mites and thrips and in some circumstances all of these pests can affect a tree at the same time.

Our treatments use the newer highly systemic insecticides that target the insect orders *Hemiptera*, *Lepidoptera*, *Thysanoptera* and non insects such as *Acaria*. Applications of the Neonicotinyl insecticide imidacloprid i.e. SilvaShield® or Confidor® will not control *Lepidopteran* insects such as Leaf Miners.

Typical Larval leaf damage on lower upper surface

Adult Oak Leaf miner Phyllonorycter messaniella



Adult Greenhouse Thrip Heliothrips Haemorrhoidalis
(Image by Cheryle O'Donnell from the University of California Davis IPM)

Adult Greenhouse Thrip and Nymphs
(Image by Mark S Hoddle UC at Riverside)

European Broad Mite Polyphagotarsonemus latus and Red Mite Panonychus ulmi on Quercus Robur

Older or first generation neonicotnyls such as imidacloprid increase mite fecundity and induce Mite Flare. We have phased this chemistry out as a treatment option in preference to newer compounds that have a wider spectrum of activity. Image on left demonstrates the results of a street tree trial using SilvaShield® (imidacloprid) at high end elm leaf beetle rates. Treatment had no effect on Oak Leaf miner but was effective on Oak Aphid.

Powdery Mildew *Microsphaera Alphitoides*

The initial symptoms of this fungal disorder appear in late spring as small brown spots which will later turn white; these smudgy white mycelial lesions are visible on the upper leaf surface. The ensuing damage can be quite significant; new leaves and shoots are disfigured resulting in partial defoliation, reduced growth, vigour and tree decline.

All methods of application are effective

Canopy spraying or air blasting is a good option for seasonal control; it is less damaging to the environment compared to soil injection, as very low levels of chemical penetrate into the soil profile.

Direct tree injection is the preferred method, this uses the trees vascular system to evenly translocate chemistries to the leaf mass, treatments are effective and guaranteed for two or more years.

Initial tree injection treated on February 13th 2003

Powdery Mildew affected foliage has reduced leaf colour and pale flagging leaves coved typically with white powdery lesions.

Updated February 24th 2004

No Powdery Mildew, minor stem elongation, increased vigour with greener and healthier foliage are typical results.

Re treatment on January 6th 2005

Minor stem elongation with sporadic powdery mildew as seen in the image, tree condition and leaf colour are still good.

Re-treatment January 29th 2007

No lesions are evident, it is important to keep maintaining adequate levels of chemistry when due, this will greatly improve your trees long term health and amenity value

Avoid major damage and serious overall decline in your oak trees – talk to Elmsavers about the best treatment at the right time for your trees.

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