RESEARCH LABORATORY TECHNICAL REPORT

BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Bacterial Leaf Scorch (BLS) (*Xylella fastidiosa*)

Jon Banks PhD

Xylella fastidiosa is a xylem restricted bacterium transmitted by xylem-sap-feeding insects (specifically Hemiptera), however the actual vectors (disease carrying and transmitting agents) are not currently known to exist within the UK. Common vectors of other diseases are however present within the UK including aphids and leaf hoppers. These pests may in part feed on xylem sap and as such are likely to be able to transmit the *Xylella* bacterium.

Symptoms

A new disease known as bacterial leaf scorch but also as olive quick decline syndrome and Pierce's disease (*Xylella fastidiosa*) has been discovered spreading through Europe, currently known to be in southern Italy, France and Spain causing major damage to olive production. While olive production is not a significant concern in the UK, this bacterial disease can infect a very wide host range. It is known to be a serious problem on trees common in the UK such as *Acer*, *Platanus*, *Prunus*, *Quercus*, and *Ulmus* (maples, planes, cherries, oaks and elms respectively) as well as many others. On these trees, symptoms include peripheral burn of foliage and rapid crown dieback. This can appear very similar to drought, salt, herbicide, root, or canker damage. Consequently, only laboratory based diagnostic techniques are able to identify if the symptoms of *Xylella* are actually caused by the bacteria. The reason for this is that the bacteria reproduce within the xylem and physically block it, which disrupts water transport, causing symptoms of drought in the foliage.

Figure 1. Typical peripheral burn on oak foliage

Treatments

Control can currently not be achieved; however, management by reducing the vectors of the disease is possible, rapid removal of infected trees is also highly beneficial as this reduces the chances of further spread.

Established in 1994, The Bartlett Tree Research Laboratories at the University of Reading is the research wing of Bartlett Tree Experts in the UK. Scientists here develop guidelines for all of the company's services. The Lab also houses a state-of-the-art plant diagnostic clinic and provides vital technical support to Bartlett arborists and field staff for the benefit of our clients.