

Black Root Rot (*Thielaviopsis basicola*)

Jon Banks PhD

Black root rot (*Thielaviopsis basicola*) is a fungal root rot pathogen affecting many plant species but most commonly found on Ilex, especially *I. crenata* (*I. aquafolium* and *I. cornuta* are resistant). Herbaceous plants are also susceptible including *Begonia*, *Dahlia*, *Geranium*, *Poinsettia*, *Cyclamen*, *Gerbera* and *Viola*. This disease favours wet soils at temperatures greater than 12°C. It is thought to be spread by sciarid flies although widespread movement can also be via imported soil or plant stock.

Symptoms

Above ground symptoms are consistent with root loss and root decline i.e. stunted growth, branch dieback and yellowing throughout the crown. Symptoms will be similar to other root rot pathogens, physical root damage or soil compaction. Occasionally diamond shaped lesions have been observed at the base of heavily infected plants.

Below ground, roots exhibit characteristic blackened areas and significantly reduced growth.

Figure 1. Blackened roots



Treatments

Plant removal and soil sterilisation are the only viable remedial treatment for this

pathogen. No fungicides are registered for control.

Maintaining a soil pH below 5.6 can reduce disease severity.

Consider an application of potassium phosphite to enhance plant vitality and promote the plants own naturally occurring defense systems. This may be of benefit in situations where damage is limited however little effective control should be expected from this approach.

For biosecurity reasons avoid moving material off site. Twigs and leaves should remain on site and be burned, buried or composted. Disinfect pruning tools by rinsing in alcohol or a solution of 1 part bleach to 9 parts water. Remove all leaves and soil from footwear, clothing and vehicles.



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.