

OLIVE WOOD ROT AND DIEBACK

Infections by a wide range of plant pathogens or certain physiological disorders can cause dieback of olive tree branches or trunk rots that may result in tree death. Unfortunately, symptoms of the various diseases and disorders can look very similar requiring laboratory testing and sometimes extensive investigations of root systems, soil conditions and weather records to determine if any particular pathogen or otherwise was the primary cause. The situation is further complicated by the fact that many common fungi and bacteria can be residents in or on woody plant tissue and only cause diseases when plants are stressed or where wounds allow their entry. In recent years there has been an increased awareness of these types of diseases particularly in European and American olive production. Following are key fungal pathogens that have been described as causing dieback diseases of olives overseas: *Neofabraea*, *Neofusicoccum*, *Cytospora* and *Diplodia* spp. Similar fungal species are known to occur in Australia but they have not been systematically studied on olives. In addition, the bacterial pathogen *Xylella fastidiosa* can cause dieback and tree death overseas and is described separately in a biosecurity flyer. Frost and sun scald can be particularly damaging to young trees while wounds from pruning, shaking, herbicides, mechanical weed controls and animal grazing can be important entry points for opportunistic pathogens.

Following is a list of fungi and bacteria (in addition to fungi causing Peacock spot, Anthracnose and *Cercospora* leaf mould which are described in separate flyers) found associated with branch dieback and trunk rots in Australia:

Disease	Pathogen	Symptoms
Trunk and stem dieback	<i>Botryosphaeria</i> sp.	Stem cankers and dieback
White wood rot	<i>Pycnoporus coccineus</i>	Trunk rot with orange bracket fungus
Charcoal rot	<i>Macrophomina phaseolina</i>	Root rot and seedling dieback
Phytophthora rot	<i>Phytophthora</i> spp.	Root and/or trunk rot
Rhizoctonia rot	<i>Rhizoctonia</i> spp.	Root rot and seedling dieback
Verticillium wilt	<i>Verticillium dahliae</i>	Root rot and branch dieback
Bacterial shoot blight	<i>Pseudomonas syringae</i>	Shoot dieback
Bacterial trunk rots	<i>Pseudomonas</i> spp., <i>Xanthomonas</i> spp., <i>Ralstonia solanacearum</i>	Wound cankers, trunk rot and dieback

Management

Prune branches during dry weather conditions to allow wound sites to dry and callus. Pruned branches should be removed – they can be mulched and composted. This is particularly important if *Verticillium* wilt has been detected since this fungus can be present in small branches and twigs. Ensure mechanical shakers are not damaging trunk tissue during harvest. Protect young trees from sun scald and frost injury. Ensure soil drains freely to avoid waterlogging and subsequent root pathogen infections.



Likely sun scald injury on young olive stem



Bacterial infection of olive stem



Phytophthora rot of young olive stem



Brown vascular tissue caused by *Verticillium dahliae* infection