



Honey Fungus – Armillaria

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Honey fungus is worldwide in distribution and affects hundreds of species of fruit, urban and forest trees, as well as shrubs. The disease is often known as shoestring or bootlace root rot. In the UK it is known as honey fungus (*Armillaria mellea*).

Spectacular losses can occur in orchards or vineyards after planting in recently cleared forest lands. Most commonly, however, losses from this disease are steady, but inconspicuous, appearing as slow decline and death of the occasional trees. Death is also greater when trees suffer from moisture stress or defoliation. Infected trees demonstrate symptoms including; reduced growth, smaller yellowish leaves, dieback of twigs and branches followed by gradual or sudden death. Affected trees appear scattered at first, but soon circular areas of diseased trees appear because of the spread of the pathogen from its initial infection point.

CAUSAL AGENT: *Armillaria* is a plant pathogen, killing roots, and a wood decay fungus, causing living or dead trees to blow over. It lives on stumps and buried wood for years when no susceptible tree roots are near. Most plants are more susceptible to honey fungus when young, becoming more resistant with age. Once diseased, trees cannot be cured. In the autumn, clumps of honey-brown toadstools, similar in appearance to the cultivated mushroom, appear near or at the base of infected plants. Toadstool stems are white and their spore prints white or cream. A fan-like, whitish mat of fungal tissue (mycelium) is often found under the bark of *Armillaria* infected trees. Rhizomorphs, which resemble black bootstrings, may also be present. Evidence that honey fungus is the primary cause of death is the presence of mycelial fans under the



Figure 1 Mycelia and rhizomorphs of honey fungus infected tree

bark of roots or root collar of dying, but not completely dead trees.

CONTROL: Remove from the site all sources of infection i.e. infected stumps and major roots and replace with disease-free topsoil. Physical barriers to at least 45 cm below the ground to prevent the spread of the fungus have been successful. Plant vigour is an important factor in increasing resistance to attack. Keep vigour high by increasing resistance in stressed trees by fertilisation, watering and mulching. Mycorrhiza can act as a long term soil bio-control agent in addition to improving tree vitality. Root collar excavation with an air-spade has recently been shown to be an effective means of reducing spread and infection rates caused by honey fungus and is strongly recommended.