

Ash Dieback (*Hymenoscyphus fraxineus*)

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Ash dieback has affected ash trees in the UK since 2012. The disease is now widespread and is characterised by wilting leaves, leading to dieback and potential whole tree death. Native ash trees have significant cultural value and are a commonly found tree, particularly in woodlands. Therefore their loss has considerable implications for biodiversity, public safety, and landscape character. Common Ash (*Fraxinus excelsior*) and Narrow-leaved ash (*Fraxinus angustifolia*) are highly susceptible hosts, whereas other Ash species have shown greater tolerance (Manna ash (*Fraxinus ornus*), Chinese ash (*Fraxinus chinensis*), Manchurian ash (*Fraxinus mandschurica*)).

Symptoms and Biology:

Early signs of ash dieback appear in mid to late summer (July–September) as blackened, wilted leaves and shoots. Infected leaves often fall early. The disease can spread into branches and the trunk, forming dark, diamond-shaped lesions at branch joints. These lesions may grow up or down and can eventually girdle the trunk, cutting off water and nutrients, which can kill the tree.

The causal agent of Ash dieback is the fungus *Hymenoscyphus fraxineus*. It has two life stages:

- the **asexual stage** (formerly known as *Chalara fraxinea*): the fungus grows inside infected trees, attacking the leaves and bark, and girdling twigs and branches.
- the **sexual stage** (formerly known as *Hymenoscyphus pseudoalbidus*): produces tiny, white fruiting bodies on infected fallen ash leaf stalks (petioles and rachises) from the previous year, typically between June and October. These release thousands of infective spores which can be dispersed by the wind. It can also spread through infected nursery stock, logs, and seeds. The spores land on leaves triggering the asexual phase of the infection.

Summary: Ash dieback, caused by the fungus *Hymenoscyphus fraxineus*, leads to leaf loss, crown dieback, and ultimately tree death.

Common Names: Ash dieback (ADB), Chalara

Hosts affected: Common ash (*Fraxinus excelsior*), Narrow-leaved ash (*Fraxinus angustifolia*)

Hosts affected but tolerant: Manna ash (*Fraxinus ornus*), Chinese ash (*Fraxinus chinensis*), Manchurian ash (*Fraxinus mandschurica*)



Figure 1 – Lesion caused by Ash dieback on young shoot.
(Image credit: Bartlett Research Laboratory)



Figure 2 – Fruiting bodies of *H. Fraxinus*.
(Image credit: Forest Research)



Maybe Confused with:

Dieback of the crown may be caused by other factors. Including: environmental stress, honey fungus (*Armillaria*), *Pseudomonas* canker and *Verticillium* wilt.

Management of trees outside woodlands:

Trees outside woodlands pose unique challenges, particularly when near people, infrastructure, and public spaces. Managing ash dieback in these settings requires careful risk assessment and clear communication with stakeholders.

Monitor symptoms, retain safe trees, prioritise sanitation and leaf removal, and proactively manage honey fungus infection risk. Improve vitality via good cultural care. Remove when disease progression, risk tolerance and structural safety declines.

Key Resources:

Ash Dieback for Local Authorities (2025) <https://treecouncil.org.uk/guidance-resources/ash-dieback-action-plan-toolkit-for-local-authorities/>

Tree Council Toolkit - A newly refreshed toolkit offering insights from recent research and practical experience across local authorities.

Arboricultural Association Guidance <https://www.trees.org.uk/Trees.org.uk/media/Trees.org.uk/Documents/eBooks/AshDieback-GuidanceNote-web.pdf>

Ash Dieback Guidance Note - A practical guide for anyone managing ash trees, with advice on identification, monitoring, and decision-making.

Management of trees in woodlands:

In woodland settings, ash dieback presents complex ecological and management challenges. Decisions must balance safety, biodiversity, and long-term resilience.

Key Resources:

FC Guidance Note 046 Managing Woods with Ash Dieback

[Main Title](#) Offers detailed considerations for woodland managers, including silvicultural options and ecological impacts.

Royal Forestry Society Case Studies (2019) Managing Ash Dieback

[managing-ash-dieback-case-studies-2019.pdf](#)

Ten real-world examples showcasing different approaches to ash dieback in woodland contexts.