



Managing Ash Dieback in England

This document offers an introduction to ash dieback (*Hymenoscyphus fraxineus*) in England. It is intended for anyone who owns or manages ash trees, including private tree and woodland owners, local authorities and highway and railway authorities.

It summarises current advice and signposts to more detailed guidance produced by Defra, the Forestry Commission and others. It is intended to encourage people to:

- understand the implications of ash dieback on land for which they are responsible
- think strategically about the management of ash trees
- use the guidance highlighted to adopt good practice

Introduction

Ash trees are found in woodland and non-woodland settings, in both urban and rural landscapes. They constitute 12% of Great Britain's broadleaved woodland and are also frequent in parks, gardens, hedgerows, roadside margins and close to watercourses. As well as being an attractive part of the landscape, ash provides a number of other benefits including production of timber, maintenance of water resources and the provision of habitat for other species.

Ash dieback is a fungal disease affecting the common ash tree (*Fraxinus excelsior*) and other *Fraxinus* species. It is caused by a fungus called *Hymenoscyphus fraxineus* (formerly known as *Chalara fraxinea*) which is native to eastern Asia.

The disease is now widespread in Europe, where it has been observed damaging ash trees since the 1990s. It was first observed in the UK in 2012, although subsequent research found sites where it has been present since at least 2005.



Further guidance

- **Forestry Commission overview of ash dieback:**
www.forestresearch.gov.uk/chalara
- **Government's Tree Health Resilience Strategy, which includes the national approach to dealing with ash dieback:**
www.gov.uk/government/publications/tree-health-resilience-strategy-2018





Impact

Most parts of England are now experiencing the impacts of ash dieback, although some regions have had widespread infection for longer periods. Local conditions will determine the extent to which ash trees are affected by the pathogen. Trees in woodlands with high proportions of ash are likely to decline more quickly due to the higher density of spores. In addition, ash is likely to decline more quickly in areas where it is stressed such as sites with low water availability. Ash trees growing in open, less humid locations – such as street and hedgerow trees – will probably deteriorate more slowly. Some trees with few symptoms could survive on these sites for many years.

A small proportion of trees will have a genetic tolerance to the disease. These are likely to be most easily identified on woodland sites with a high degree of infection where some trees might stand out as being healthy.

Infection can lead to leaf loss and dead branches throughout the crown of ash trees and clumps of new growth towards the centre of the crown. Under high infection pressure the pathogen can cause infection at the base of the tree. This will increase susceptibility to secondary pathogens such as honey fungus (*Armillaria* spp). In all situations, the most susceptible trees can dramatically deteriorate in condition in as little as four years. If affected trees are situated in high footfall areas or roadside margins, this can create health and safety risks to the public and to forestry operators.

What we know

- A small percentage of ash trees will be tolerant to the disease
- Fewer symptoms have been observed in ash trees growing on well managed sites in open spaces, such as parklands. At these sites, trees can survive for years without many observed symptoms
- In some circumstances, local effects on landscapes and woodlands might be gradual and mitigated by a small proportion of tolerant trees, and by other tree species taking the place of susceptible ash trees
- Eventually, tolerant trees should be available for repopulating landscapes with ash trees
- Tree mortality is caused directly by the ash dieback pathogen, or indirectly where it weakens the tree to the point where it is more susceptible to attacks by other pests or pathogens, especially honey fungus (*Armillaria* spp).



Further guidance

- **Interactive map showing ash dieback infection across the United Kingdom:** chalaramap.fera.defra.gov.uk/
- **Ash research strategy:** www.gov.uk/government/publications/ash-tree-research-strategy-2019



Identifying ash dieback

It is recommended that you familiarise yourself with the symptoms of ash dieback so you can assess the health of your ash trees and the severity of the infection in your area.

It can be difficult to identify the symptoms in larger trees. The best time to survey is in the summer, when the symptoms are more obvious and the tree should have a full crown.

There is a variety of on-line resources available to help you with identification.



1. Spores from the fungus travel on the wind and infect foliage, causing brown patches spreading towards the central leaf stalk and premature leaf loss. In some cases the fungus will go on to colonise the branch.
2. From the foliage, the fungus can colonise the branch structure of the tree, causing dieback. Trees may respond by producing new growth towards the centre of the crown.
3. Lesions are caused as the pathogen colonises branches of a tree. They are typically diamond shaped.
4. In areas of high infection, lesions may be caused at the base of the tree.
5. Particularly in woodland, secondary pathogens such as honey fungus can colonise trees weakened by ash dieback and cause root or stem rot.
6. The crown of infected ash can decline over a number of years. These trees show 10% (left) and 60 % (right) crown dieback.



Further guidance

- **Observatree symptoms guide:**
www.observatree.org.uk/portal/ash-dieback/
- **Forestry Commission symptoms guide:**
www.forestryresearch.gov.uk/chalara
(see the 'Identification and symptoms' section)
- **Forestry Commission YouTube channel:**
www.youtube.com/user/ForestryCommission1

Management guidance

It is recommended that land managers consider their management options now, even if they are dealing with low levels of infection.

This includes preparing or amending management plans to account for current future impacts of ash dieback. Before changing management regimes, the objectives and individual setting of the tree or woodland should be considered.

Felling diseased ash requires a felling licence from the Forestry Commission, unless the trees are dead or pose a real and immediate danger.

Restrictions such as tree preservation orders must also be respected; your local authority will be able to provide guidance.

Uninfected ash trees should not be felled, other than during normal management activities and if appropriate permissions are in place. Carrying out wildlife surveys and obtaining permissions before trees become dangerous is recommended in case urgent action is later required. Additional restrictions will apply if your site is designated a Site of Special Scientific Interest, or located in an Area of Outstanding Natural Beauty. In all cases adhere to good practice on protecting European Protected Species (EPS) such as bats and dormice.

Management of woodland

Where timber production is an objective, the approach taken will depend on the age and mixture of the trees present as well as the severity of infection. Once the majority of trees are infected in more vulnerable younger stands (<25 years), the approach may be to harvest all ash trees immediately. In older stands, a tree by tree approach should be taken where possible, removing trees when more than 50% of the crown is infected.

If the canopy will close with the growth of other species within 10 years if ash is lost, it is likely that timber objectives and maintenance of woodland conditions can still be achieved without restocking. Where practicable, potentially tolerant trees should be identified whilst in leaf and retained. A proportion of dying or dead trees should also be retained for habitat value where it is safe to do so.

Lower levels of intervention may be appropriate where conserving environmental benefits is the key objective. However, active intervention by felling heavily diseased trees, securing natural regeneration, and planting where necessary will enhance species and structural diversity and reduce the length of time the woodland is in decline.



Further guidance

- **Forestry Commission information about applying for a felling licence:** www.gov.uk/guidance/tree-felling-licence-when-you-need-to-apply
- **Forestry Commission information about European Protected Species:** www.gov.uk/guidance/manage-and-protect-woodland-wildlife
- **Urban Tree Manual:** www.forestresearch.gov.uk/tools-and-resources/urban-tree-manual/
- **Tree Council guidance for local authorities on preparing an ash dieback action plan:** www.treecouncil.org.uk/What-We-Do/Ash-Dieback
- **Forestry Commission operations notes on managing ash trees affected by ash dieback:**
 - (1.) www.gov.uk/government/publications/managing-ash-in-woodlands-in-light-of-ash-dieback-operations-note-46
 - (2.) www.gov.uk/government/publications/managing-ash-trees-affected-by-ash-dieback-operations-note-46a
- **Forestry Commission and Natural England guidance on managing woodland SSSIs with ash dieback:** www.gov.uk/government/publications/managing-woodland-sssis-with-ash-dieback-hymenoscyphus-fraxineus
- **Forestry Commission guidance on woodland management, biodiversity and wildlife including the UK Forestry Standard:** www.gov.uk/guidance/how-to-benefit-species-and-habitats-biodiversity-in-your-woodland

Safety of operators and visitors

It is important that those working on diseased ash trees or in ash woodland are aware of the specific dangers and relevant safety considerations. The works manager should ensure this is the case.

Public safety is likely to be an important concern, especially for those responsible for ash near roads, railways, buildings and other publicly accessible land. Trees or woodlands in these areas should be risk-assessed, monitored and managed under an agreed protocol. Monitoring should happen with increased frequency and at an appropriate time of year for assessing the extent of infection.

In law, the owner of land where a tree stands is responsible for the health and safety of those who could be affected by that tree. Liabilities can arise if trees or branches fall. If you are unsure about the health and safety risks, consult a fully insured tree management professional who holds the LANTRA Professional Tree Inspection Certificate.



Replacing ash trees lost to ash dieback

Replacement species should primarily be selected based on their suitability for the site. When planting replacement trees, diversifying species and provenance can help make woodlands and landscapes more resilient to pests and diseases, as well as climate change.

Where felling licence is granted, there will almost always be a requirement for restocking in the area where trees were removed. Countryside Stewardship grants are available to help with the costs of this in woodland. They provide funding to supply, plant, weed and protect young trees as long as the proposals are appropriate and agreed in advance by the Forestry Commission.

Using natural regeneration will support site-adapted species and may also support the regeneration of tolerant ash trees where tolerant parent trees are present. In addition, under-planting with alternative species should be considered where diseased ash is not being removed, provided this can be carried out safely.

The prevalence of deer and grey squirrels can impact the success or failure of restocking, and must be taken into account. Maintaining soil condition is another success factor, and sites should only be worked in conditions which will avoid large-scale compaction or erosion.



Further guidance

- **National Tree Safety Group guidance on tree safety management:** www.ntsgroup.org.uk/guidance-publications/
- **Forest Industry Safety Accord and Euroforest guidance on working with diseased ash trees:** www.tiny.cc/5i62az
- **Arboricultural Association approved contractors and best practice:** www.trees.org.uk/
- **Tree Council guidance for owners or managers of ash trees outside woodlands:** www.treecouncil.org.uk/
- **Find a tree care professional:** www.trees.org.uk/Find-a-professional



Further guidance

- **Woodland tree health restoration grant:** www.gov.uk/government/collections/countryside-stewardship-woodland-support
- **Forestry Commission tool for identifying site type and selecting appropriate species:** <https://www.gov.uk/government/collections/countryside-stewardship-get-paid-for-environmental-land-management#woodland-support>
- **Forestry Commission research note on selecting replacement tree species based on ash-associated biodiversity and ecosystem services:** www.forestresearch.gov.uk/research/ecological-impacts-of-ash-dieback-and-mitigation-methods/
- **Forestry Commission guidance on managing other threats to woodlands:** www.gov.uk/guidance/manage-threats-to-woodland-destructive-animals-invasive-species

Biosecurity

A plant health order made in 2012 prohibits all imports of ash seeds, plants and trees into Great Britain, and all inland movements within Britain of the same material. Ash timber can be moved as usual.

Although there is currently no cure for ash dieback, good biosecurity practice should always be followed when visiting or working in woodlands to help reduce the risk of introducing and spreading tree pests and diseases.

Forestry Commission has worked closely with industry organisations to develop specific biosecurity guidance for those working on trees and in woodlands to help reduce the risk of spreading pests and diseases.

Ash dieback elsewhere in the UK

Advice and guidance specific to Scotland, Wales and Northern Ireland are available on the websites of their forestry authorities.



The impact of the disease on trees outside of woodlands is less predictable. While many will decline, many will persist indefinitely.



Further guidance

- **2012 plant health order:**
www.legislation.gov.uk/ukxi/2012/2707/contents/made
- **Forestry Commission guidance on preventing the spread of tree pests and diseases:**
www.gov.uk/guidance/prevent-the-introduction-and-spread-of-tree-pests-and-diseases



Further guidance

- **Scottish Forestry:**
www.forestry.gov.scot
- **Natural Resources Wales:**
www.naturalresources.wales
- **Northern Ireland Department of Agriculture, Environment & Rural Affairs:**
www.daera-ni.gov.uk/

Use the websites' search facilities to find the relevant pages.

