

## Ash dieback

### Background

Ash dieback is a disease caused by the *Chalara fraxinea* fungus which often leads to the death of the ash trees it infects. The Scottish Wildlife Trust is concerned about the spread of Ash dieback disease in the UK because it could be catastrophic for the ash tree population and native woodland ecosystems. The main symptoms of the disease are severe crown dieback, wilting and necrosis of the leaves, and necrosis on the bark of shoots and stems.

Dieback was first observed in Lithuania and eastern Poland in the middle of the 1990s. Since then, severe damage has been reported in many European countries including Latvia, Germany, Belgium, France, Denmark, Norway and Finland.<sup>1</sup> Ash dieback can be devastating; Lithuania, experienced a drop in forestry from 53,000 ha to 38,000 ha between 2001 and 2009.<sup>1</sup> In Denmark c. 90% of trees have been infected.

In February 2012 the pathogen was found in trees in a Buckinghamshire nursery which had been imported from the Netherlands. Since then it has been found in a number of locations and situations in England and Scotland including native woodlands. The most recent surveys show that there are fourteen sites in Scotland with ash dieback- two of which have involved mature ash trees.

### Keystone species

Ash trees have high conservation value and are one of the commonest native broadleaved trees found in Scotland. They are a key component of native woodlands and an important feature of our landscape, being present as field trees and in hedgerows. As their leaf structure lets light penetrate to the ground in woods, they support a rich understory which can contain rare woodland flowers such as dark red helleborine and whorled Solomon's seal. The alkaline bark of old ash trees support important lichens and mosses. Upland mixed ashwoods are protected under the European Habitats Directive.

### The Scottish Wildlife Trust's position

The Scottish Wildlife Trust believes that action is required now to halt the spread of the disease, which is a major threat to the UK's ash population and woodland ecosystems.

We also believe that tackling ash dieback in the long term, should be based on the best available science. For instance we still do not know how the disease spread to the UK (was it by importing infected ash or was it carried by spores on the air?) or how much of our ash will be resistant to the disease. Recent research<sup>1</sup> has shown that some strains of ash can resist the disease, so it is important that we create the right conditions to increase the genetic diversity of our ash populations. We should retain mature trees because they are more resistant to the disease and indeed those that resist the disease altogether or show partial resistance will provide valuable information for genetic research of the disease. We also need species-rich landscapes to enable ecosystems to resist potentially devastating pathogens such as this. In the long term, resilient landscapes will also be able to bounce back more quickly from such perturbations.

### Scottish Wildlife Trust's 5 point action plan:

1. **Import ban** Now in place, the Trust called for an important ban as soon as the disease was confirmed in the wild in the UK
2. **Import controls** If and when the ban is lifted, re-examine how imported plants are checked for disease
3. **Research** Invest in more research into ash dieback and similar diseases, including biosecurity, resistant strains, and resilience of ecosystems to such disease outbreaks
4. **Biosecurity** Develop and implement a Tree Health and Biosecurity Plan which should encourage the use of saplings from nurseries who source their trees locally
5. **Communication** Actively communicate clear guidance to landowners on what to do when the disease is suspected. SWT will be urging all staff, volunteers and visitors to be vigilant and report ash dieback if suspected on SWT's own reserves. We will also report trees that show signs of resistance to the Forestry Commission.

### What the public can do to help

- Report suspected cases to the Forestry Commission: <http://www.forestry.gov.uk/chalara>
- Download Ashtag app: <http://ashtag.org/>

<sup>1</sup> Lars-Goran Stener (2012). Clonal differences in susceptibility to the dieback of *Fraxinus excelsior* in southern Sweden. Scandinavian Journal of Forest Research. On line at: <http://dx.doi.org/10.1080/02827581.2012.735699>

## Q and A

### What is ash die back?

Chalara dieback of ash is a serious disease of ash trees caused by a fungus called *Chalara fraxinea*. The disease causes leaf loss and crown dieback in affected trees; it often leads to tree death.

### How are diseased trees identified?

As leaf loss is the main symptom it will be difficult to identify affected trees during the autumn and winter months. The Forestry Commission have produced a [pictorial guide](#) highlighting the symptoms.<sup>2</sup>

### How did the disease get here?

The first cases in Britain were found in infected saplings imported from Europe to nurseries. As the cases in established woods were all in the south-east of Britain it may suggest that spores also arrived on the wind from infected parts of Europe. There is still no definitive answer as to how the disease spread to our native woodlands.

### How does the disease spread?

It is believed that the disease spreads mainly by wind borne spores which can travel up to 30 km; they are thought to survive only a few weeks. Spores are produced from June-October, with the maximum production occurring in July and August. Ash leaf litter produces fruiting bodies containing spores and is a major source of potential spread. Although it is advised that leaf litter is not moved around, it is unknown if compost material containing ash leaves is a reservoir for spores.

### Is the disease widespread elsewhere?

Ash trees suffering with *C. fraxinea* infection have been found widely across Europe. It was first noted in Poland and Lithuania in 1992 where trees died in large numbers.

### When was the disease first reported in Britain?

The disease was first reported in Britain in February 2012 when it was found in a consignment of infected trees sent from a nursery in the Netherlands to a nursery in Buckinghamshire.

### Where else has the disease been found?

In June 2012 it was found in ash trees planted at a car park in Leicestershire. In July 2012 cases were confirmed in the nursery trade in West and South Yorkshire and Surrey, and by September 2012 it had been reported in a nursery in Cambridgeshire. It has also been found at four recently planted sites including a Forestry Commission Scotland woodland at Knockmountain, near Kilmacolm, west of Glasgow.<sup>3</sup> The most recent survey shows that there are fourteen known sites in Scotland with ash dieback- two of which have involved mature ash trees.

### Has the disease spread into the natural environment?

In October 2012 the disease was confirmed in the natural environment for the first time at two sites in East Anglia. The East Anglia outbreak was confirmed by plant scientists from the Food and Environment Research Agency (Fera) at the Woodland Trust's Pound Farm woodland in Suffolk, and Norfolk Wildlife Trust's Lower Wood reserve, in Ashwellthorpe.

### How are affected trees dealt with?

Statutory Plant Health Notices are served by Forestry Commission on owners requiring them to remove and destroy affected plants by burning or deep burial on site. This is the only available treatment.

### How much of a threat is ash die back?

The disease is reported to have killed 60 - 90% of ash trees in Denmark.

### What is the Scottish Wildlife Trust encouraging staff to do?

The Scottish Wildlife Trust owns or manages over 120 reserves in Scotland; over 40 are woodlands. Our Reserves Managers are asked to be vigilant and report ash dieback if it is suspected on any of our reserves or indeed in ash trees seen in the countryside. We will also report suspected resistant trees.

### What is the Scottish Wildlife Trust encouraging their members to do?

The Scottish Wildlife Trust is encouraging their members to report any trees they suspect of being infected to the Forestry Commission See: <http://www.forestry.gov.uk/chalara>. *C. fraxinea* is being treated as a quarantine pest under national emergency measures, and it is important that suspected cases of the disease are reported.

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<sup>2</sup> See:

[http://www.forestry.gov.uk/pdf/Symptoms\\_guide\\_Chalara\\_dieback\\_of\\_ash\\_2012.pdf/\\$FILE/Symptoms\\_guide\\_Chalara\\_dieback\\_of\\_ash\\_2012.pdf](http://www.forestry.gov.uk/pdf/Symptoms_guide_Chalara_dieback_of_ash_2012.pdf/$FILE/Symptoms_guide_Chalara_dieback_of_ash_2012.pdf)

<sup>3</sup> From FC website: <http://www.forestry.gov.uk/chalara>