

Fireblight

GWF219

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This relatively uncommon disease can devastate pear orchards, and affects a range of shrubs. It can't be cured, but rapid treatment can help control its spread.

Q What is fireblight?

A A serious and potentially fatal disease of pears, apples and related plants caused by the bacterium *Erwinia amylovora*. The name comes from the characteristic blackening of affected leaves and shoots.

Q How do I recognise it?

A Flowers and/or shoot tips wilt and turn brown or black. The shrivelled shoots tend to have hooked tips, like a shepherd's crook. Affected shoots are usually scattered throughout the canopy and may appear next to perfectly healthy ones. The dead leaves and flowers slowly disintegrate and fall over a long period. Twigs, large branches or whole trees may die. Bark in affected areas dies, and may appear dark, sunken or cracked. Cankers develop at the base of affected shoots.

Q What further checks can I make?

A Below the damaged bark, the cambium layer, which is usually creamy white, develops reddish-brown staining. Drops of whitish or yellowish bacterial pus may seep out from dead tissues in spring and summer.

Q Which plants does it affect?

A Fireblight only affects the subgroup of plants with apple-like fruits (*Maloideae*) within the large rose family (*Rosaceae*). This includes amelanchier, apple, cotoneaster, flowering quince (*Chaenomeles*), hawthorn, rowan, pear, pyracantha, quince and whitebeam. Plums and other *Prunus* species are not affected.

Q When does fireblight occur?

A It generally develops at flowering time, and is encouraged by warm, wet weather. Late-flowering fruit varieties are more vulnerable because flowering occurs at higher temperatures.

Q Can I confuse it with anything else?

A On apple and pear trees, fungal canker can kill shoot tips, and it is more common than fireblight. Fungal cankers tend to be dry, and there is no red-brown staining below the bark. See *Gardening Which?* factsheet Apple and pear canker GWF202 for more information.

Blossom wilt, spur blight and wither tip caused by the brown-rot fungus also kill shoot tips, but do not spread far down the branches or produce cankers or red-brown staining on the branches.

Q How does it spread?

A The bacteria overwinter on the bark round the edges of cankers. In spring they multiply and ooze out in droplets. They can then be spread by insects, rain, wind, birds or gardeners. Infection commonly occurs through flowers during pollination, but can also enter via pruning wounds or leaves damaged by weather or insects. The infection spreads quickly down the shoot to larger branches and may kill a young tree or shrub in a single season. In larger trees, the disease may naturally peter out after a couple of years.

Q Does it occur all over the UK?

A The disease is widespread in most of England and Wales. It is uncommon in the most northern counties of England and Scotland and it is absent from Northern Ireland, the Isle of Man and the Channel Islands.

Q Does the disease have to be reported?

A In some circumstances, yes. Fireblight originated in the USA and was first recorded in the UK in 1957, in a pear orchard in Kent. At first, the authorities attempted to control the disease's spread, and had to be

informed of any outbreaks. This attempt was abandoned in 1993 – partly because it is impractical to control the disease in hawthorn hedges. However, fireblight is classed as a quarantine disease, and if it is suspected on a registered nursery or other registered premises anywhere in the UK, then the appropriate authority must be informed. If you live in Northern Ireland, the Isle of Man or the Channel Islands and suspect an outbreak, even in a garden, then you must also report it.

In England and Wales, including Northern Ireland, the Isle of Man or the Channel Islands, contact the Plant Health and Seeds Inspectorate, part of

the Department for Environment, Farming and Rural Affairs (Defra) 01904 455174, in Scotland the Scottish Executive Environment and Rural Affairs Department (SEERAD) telephone 0131 244 6303; and in Northern Ireland the Department of Agriculture and Rural Development (DARD) telephone 0289 052 5001.

Q Can fireblight be prevented?

A If it is a problem in your area you should avoid planting susceptible shrubs, and hawthorn. The Swedish whitebeam *Sorbus intermedia* is thought to be immune. The ornamental crab apples *Malus* 'Liset', *M.* 'Professor Sprenger' and ornamental pear

Pyrus calleryana 'Bradford' are very resistant.

Early-flowering apple and pear varieties tend to be less prone.

Q How do I treat affected trees?

A Young trees and shrubs are best removed entirely. The disease cannot be cured but, if caught early, the spread of infection on larger trees can be halted by pruning out affected branches. Branches under 25mm in diameter should be cut at least 30cm below the last trace of red staining, and with larger branches this should be 60cm. Do this in dry weather and sterilise the secateurs or saw between cuts with household disinfectant or bleach. The parts you cut off should be burned promptly.

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