

Apple and pear canker

GWF202
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Canker is probably the most serious disease to affect apple trees in British gardens. It can also affect pears.

Q What exactly is a canker?

A A canker is an area of diseased or dead bark, usually sunk below the surrounding healthy tissue. The edges of the affected area are often raised above the surrounding bark.

Q What causes apple and pear canker?

A A fungus (*Nectria galligena*) which enters the tree through areas of damage such as cracks in the bark, pruning cuts, leaf scars or lesions resulting from scab infection. Even woolly aphid damage is thought to let the fungus in. Some varieties of apple are more susceptible than others, and it is worse on heavy, wet soils. Pears are affected, but less frequently than apples. *Nectria* also affects hawthorn and poplar. Other trees also get cankers, but they are seldom as serious as apple and pear canker. Although cankers are often caused by different fungi, you can treat them in the same way.

Q Is it the same as cherry and plum canker?

A No. Cherry and plum canker is also very serious but is caused by a bacterium that only affects prunus; it does not affect apples and pears. Ask for GWF 284.

Q Can you tell me more about canker?

A Spores are produced in small, creamy pustules during spring or summer. Older cankers produce

characteristic raised, red pustules in autumn or winter. Both of these will turn slimy in wet weather, releasing the spores which spread the disease. The red pustules could be mistaken for insect eggs or mites.

Rain splash, and possibly birds and insects, help to distribute the spores. However, there is strong evidence that canker is spread inside rootstocks, so you could buy trees that are already infected. Always check out new trees for signs of canker, especially around the graft union, and reject any suspect trees.

Q How do I recognise the disease?

A Cankers appear as sunken areas on the twigs where the tissue just below the bark has died. The bark within the canker also dies and may fall away to reveal the inner wood. The tissue around the canker becomes swollen and cracked in concentric rings.

Identification can be confirmed by spotting the pustules in the canker. If the twig or branch is girdled by the canker, spreading all the way round, it will die. The dead leaves on these dying twigs are often the most obvious sign of canker infection.

Q Is there anything else I could mistake canker for?

A Scab can also cause apple and pear cankers, but these are more blister-like, and occur on young twigs. If swollen areas are found near ground level, the problem may be crown gall.

Silver leaf can also cause cankers. Look out for purplish fungal growths on the stems as confirmation.

Coral spot usually affects only dead wood but it can infect apples, especially where the soil is poorly drained. Look out for pink pustules. Other fungi associated with fruit rots will also produce rotting cankers on twigs. Deal with these as you would for other cankers.

Fireblight, ask for *Gardening Which?* Factsheet 219.

Q How serious is apple and pear canker?

A A few isolated cankers will not cause much of a problem. Large trees can usually live with the disease, although crops may be reduced and a tree's vigour lessened. Affected branches are also vulnerable to wind damage. However, if the trunk of a young tree is girdled, or several major branches or most young twigs are affected, then the tree will either die or be permanently diseased and is best removed.

Q Is the fruit affected?

A Sometimes the fruit can be attacked. The result is a brown rot which is circular, sunken and dotted with creamy pustules near the eye or flower end. This is sometimes called eye rot. Eventually the fruits become 'mummified' and should be removed. If left they can spread spores, causing more cankers.

Q How do I control canker?

A As soon as you spot the cankers, cut off girdled twigs and branches well back into healthy wood. Burn all diseased material or consign it to the dustbin. Smaller cankers can be cut back to healthy bark with a sharp knife and the cut surfaces treated with a wound paint that's specially formulated for canker treatment. Make sure you get rid of all infected wood. Clean the blade of your pruning tools between each cut - wipe with a clean cloth, then dip the blade in a solution of garden disinfectant. Prime sites for cankers to develop are beneath tree ties.

Q Can badly affected trees be cured?

A Not really, although careful hygiene can reduce a canker's spread, allowing the tree to recover on its own. Where a really valuable tree has its trunk girdled by a canker, it can be saved by bridge grafting. Here, lengths of branch are grafted so they connect the uninfected wood on each side of the canker. This is a bit tricky to do, and you may need to ask a local fruit grower or nurseryman for help.

Q Can I prevent apple and pear canker?

A If you are planting new trees of susceptible varieties, mixing half a spadeful of lime into the planting hole will help to prevent the disease. With established trees, thin out overcrowded branches to allow good air circulation.

Be careful about adding excessive amounts of nitrogen-containing fertiliser, or using too much fresh manure. About 30g a sq m each of sulphate of ammonia and sulphate of potash

every year should be enough in most situations. Adding 30g a sq m of superphosphate every few years can also help.

To help prevent canker, improve drainage on wet sites and keep down apple and pear scab, which lets the disease in, by using fungicide sprays.

Q Is it worth spraying?

A Copper-based fungicides can help to prevent the disease spreading. Spray in late summer, after harvest, and again in autumn when about half of the leaves have fallen. However, the effect is unlikely to be dramatic.

Q Are there any resistant varieties?

A All varieties can get canker, but good varieties with more than average resistance include 'Bramley's Seedling', 'Discovery', 'Egremont Russet', 'Falstaff', 'Lane's Prince Albert', 'Laxton's Superb' and 'Newton Wonder'.

Q Should I avoid any varieties?

A 'Cox's Orange Pippin', 'Elstar', 'Fiesta', 'Gala', 'James Grieve', 'Jonagold', 'Spartan' and 'Worcester Pearmain' are all more susceptible than average. Among pears, 'Fertility' and 'Marie Louise' are thought to be more susceptible.

Chemical information

Brand names of garden products change frequently, whereas the *active chemical ingredient* in them usually doesn't. Because of this, we list the *active chemical ingredient* recommended for a given problem, rather than the brand name of the product.

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