

# Bacterial canker

GWF284

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This deadly disease is the biggest killer of stone-fruit trees. However, if you act quickly enough, you can limit the damage and save valuable trees.

**Q** What is bacterial canker?

**A** Bacterial canker is the biggest killer of almonds, cherries, peaches, plums and nectarines. It affects both ornamental and fruiting varieties of these trees. The canker kills branches, causing the tree to die back until it eventually perishes.

**Q** Is it called anything else?

**A** Bacterial canker is sometimes called bacteriosis, gummosis or blossom blast.

**Q** What causes it?

**A** Unlike most tree diseases this is caused by a bacterium, *Pseudomonas mors-prunorum*.

**Q** How do I recognise bacterial canker?

**A** Suspect this disease if your tree has cankers, dying branches and twigs, or gum on the bark.

Cankers are splits in the bark, which are usually longer than they are wide. They start at the base of infected buds, spreading above the point of infection, then on to the sides or below. Often a great deal of gum is exuded at the edge of the canker.

The disease starts in the spring. Inside the cankered areas, bark becomes darker, looks wet and shrivels. Affected areas are usually slightly sunken. Cankers

have a sour smell and will often run right round a branch causing the shoot beyond to wither and die.

However, the cankers also spread lengthways along the stem. The infected stem will often bend towards the side that is cankered.

**Q** What symptoms point to canker infection?

**A** Look for cankers if any of the following occur:

**Tree death** Look for cankers on the trunk - when these girdle the whole tree will die.

**Branch dieback** Look for cankers on branches and especially the base of branches - when these girdle the whole branch it will die. Often the affected trees start out apparently healthy in the spring, but later the leaves turn yellow and the branch dies back.

**Shoot wilt** Young shoots die back in spring and early summer.

**Blossom blast** Flowering shoots wither in spring and early summer.

**Leaf spots and shotholes** Leaves are peppered with dark spots and later with small holes.

**Q** Could it be mistaken for anything else?

**A** Plums and damsons often

produce gum naturally, although viruses or drought could be involved. Dieback of branches in cherries and plums is quite common from other causes. It could be natural dieback followed by opportunist fungal infection, or damage by drought.

If the foliage is silvery or if purple/brown crust-like fungal bodies form on the stems, suspect silver leaf, see factsheet GWF263. Where cherries are grown in waterlogged places, the bark can split and the underlying tissues degenerate to a red powder.

Blighted twigs, young shoots and blossom can be caused by wither tip disease and fungal blossom wilt. See Gardening Which? Factsheet GWF275. Neither of these diseases produces cankers.

**Q** Can you tell me more about bacterial canker?

**A** Trees are at their most vulnerable as they are going into dormancy for the winter. In autumn, look for shallow depressions at the base of branches, where the bark has become infected through the scars left by fallen leaves. By spring these will be getting bigger and oozing amber-coloured gum which hardens and remains visible on the shoots, branches and stems. However, during summer,

the stem cankers become inactive and the bacteria can die out. The disease continues on the leaves.

Bacteria from the cankers spread over the leaves and infect them during the summer. The infected spots fall out of the leaves, leaving them peppered with small holes. This is known as the shothole effect. Infected leaves are the source of infection for new cankers in the autumn.

Blossom is also affected. In cool, wet, spring weather, the bacteria infect the buds, young shoots, green fruits and stems of fruitlets. The bacteria are thought to get in mostly through scars left by frost damage.

#### **Q What can I do about it?**

**A** Prune out affected shoots and branches as soon as you see them, to prevent the spread of bacteria from the wound. With luck, a new shoot will emerge below the dead one.

Make sure stakes and tree ties don't rub the bark, as this can make entry wounds for the bacterium. Support heavily laden branches so they don't snap leaving wounds and be careful not to break shoots when picking for the same reason.

Try to avoid winter pruning. If you must do it, prune at the end of the dormant season, in January

or February, when the bacteria are less likely to infect the wounds. Ideally, prune in summer, when the wood will heal quickly. This is one of the few occasions when it helps to use a tree wound paint. Summer pruning and using a wound paint also prevents the fungal spores of silver leaf disease from infecting these wounds. Leave the worst affected trees until last.

American growers sometimes burn out cankers, but we have not been able to test this option. Gather up and destroy leaves in autumn by burning, burying or thorough composting.

#### **Q Can bacterial canker be avoided?**

**A** A tree in good condition can shrug off attacks. But when they are stressed (by drought, for example) or are old, they become vulnerable.

Don't overfeed the trees with nitrogen rich fertilisers or manures. Soft growth, especially in late summer, is particularly vulnerable to attack.

#### **Q How effective is spraying?**

**A** Spraying with a copper-based fungicide will help to control this bacterium. Spray three times at three weekly intervals from mid-

August to prevent cankers forming. Use a fine spray to get complete coverage of the tree. With big cherry and plum trees this is very difficult to do, but it could be worthwhile to get young trees off to a good start. Some sprays may damage the foliage of some trees. To be on the safe side, treat one branch as a test before doing the whole tree.

To keep the leaves of ornamental kinds free of 'shotholes', spray the trees with a copper-based fungicide about three weeks after petal fall and again two weeks later. Be careful not to spray trees in flower, as there is some evidence that copper-based fungicides damage pollen.

#### **Q Are there any resistant kinds?**

**A** Some American types of sweet cherry are said to be tolerant, but they are not yet available here. *Which? Gardening* keeps a lookout for useful resistant plants.

There are also some especially susceptible kinds, 'Van' cherries, 'Victoria' plums and 'Laxtons' gage in particular. Resistant rootstocks such as Myrobalan plum rootstocks and F12/1 cherry rootstocks will help protect trees.