



FACT- FILE [Raspberry Diseases 01]

Raspberry-cane Diseases

Most raspberry canes will be affected by viral or fungal diseases in time, causing gradual deterioration. They are also prone to mineral deficiencies which can look similar to viruses.

Q What diseases affect raspberries?

A Three fungal diseases affect raspberries – cane blight, cane spot and spur blight – plus a group of viruses. All lead to a loss of vigour and fruiting capacity.

CANE BLIGHT

Q How do I recognise it?

A Cane blight attacks at ground level, but the first symptom you are likely to spot is the shrivelling and dying of leaves on the older, fruiting canes. Look for dark patches on the canes just above soil level. These develop cracks and become covered in black fruiting bodies the size of a pinhead. The canes become brittle and may snap off.

Q Tell me more about it.

A The disease is caused by a fungus (*Leptosphaeria coniothyrium*) which lives in the soil. It enters the base of canes through splits in the bark, often the result of cane-midge attacks.

Q How can I control cane blight?

A Once spotted, it cannot be treated and should be cut out below ground level and burned. Clean the secateurs with garden disinfectant before pruning any healthy canes.

Q Can it be prevented?

A The spores survive for several years in the soil, so plant new raspberries elsewhere. Do not plant strawberries in infected ground either as this fungus will attack their roots. Spraying with a copper-based fungicide approved for fruit may help prevent cane blight and the other two cane diseases. You need to start spraying in March when the buds are about 1cm long and repeat as recommended on the packet. However it may be more sensible to replace the plants with new stock every seven to ten years.

CANE SPOT

Q How do I recognise it?

A It starts as small purple spots on the canes in May or June. They gradually increase in size to form cankers which look like shallow white pits with a purple edge. The canes may die

back, or produce distorted fruit.

Q Tell me more about it.

A The fungus *Elsinoe veneta* is responsible. It overwinters on affected canes. It also affects loganberries and hybrid berries.

Q How can I control cane spot?

A Affected canes cannot be treated. Cut them out in autumn.

Q What about prevention?

A The spray programme described above for cane blight should help to control cane spot.

SPUR BLIGHT

Q How do I recognise it?

A Spur blight starts on new canes, appearing in August as areas of purple discolouration, often around a leaf bud. These change colour, first to brown, then black, then whitish. In winter they are less distinct but become dotted with tiny black fruiting bodies. The areas of damage also enlarge, affecting lengths of cane up to 10cm long. If the damage girdles the cane, the top may die back. Next year, affected buds may not develop, or they may produce shoots which just die back.

Q Tell me more about it.

A The disease is caused by the fungus *Didymella applanata*. By killing buds it reduces fruit production the following year. It also affects loganberries and hybrid berries, and occurs more in Scotland and the north.

Q How do I control it?

A Affected canes can't be treated. Cut them out and burn them.

Q What about prevention?

A Overcrowding encourages spur blight. Thin the new canes in autumn to 15cm apart on the training wires. In spring, follow the spray programme outlined for cane blight, starting when the canes are 15cm high.

VIRUSES

Q How do I recognise virus infection?

A Initially the symptoms can be very subtle – a gradual decline in the crop, perhaps a little stunting, distortion or discolouration. As the disease builds up, the symptoms become pronounced and crop production may suffer. The leaves become mottled, with yellow patches between the veins.

Q This symptom sounds very similar to mineral deficiency. How can I tell them apart?

A Leaves suffering from iron or magnesium deficiency can look like those with a virus infection. It is more likely to be a deficiency if all the plants are affected, regardless of variety, or if the problem occurs within the first year or two of planting. It is more likely to be a virus if the plants are also stunted or are distorted, and if the crop is very poor. Another factor that suggests a virus infection is when some varieties are affected more than others.

Q Tell me more about viruses

A All cane fruit can be affected, but raspberries are particularly susceptible. The most common problem is raspberry mosaic disease, caused by a combination of viruses spread by aphids. The plants may still crop reasonably at first. Leaf symptoms can be varied but typically consist of angular, yellow areas between the veins. Raspberry yellow dwarf virus is caused by arabis mosaic virus, spread by eelworms in the soil. Plants are stunted with little fruit. The leaves have small yellow spots and yellow patches along the veins. Scottish leaf-curl disease is caused by raspberry ringspot virus. It causes yellowish rings on the leaves, which curl downwards and may be brittle or stunted.

Q How do I control them?

A There is no treatment for virus infected plants. They should be dug out and burned.

Q What can I do to prevent viruses?

A If you are buying new plants, ask for certified stock; this should be virus-free. When planting a new raspberry bed, site it away from soil where they have grown before; eelworms can survive for years and travel up to 15m to infect new plants. If this is impossible the only alternative is to replace the soil, taking out a trench 60cm wide and 45cm deep. The infected soil is safe for all other plants except strawberries.

TREATING RASPBERRY DISEASES

Q Are there any resistant varieties?

A 'Glen Magna' has some resistance to spur blight; 'Glen Moy' is resistant to spur blight and some aphids; 'Julia' probably has the best all-round resistance to disease, and is recommended for organic growers; 'Malling Jewel' is tolerant of virus infection; and autumn-fruiting 'Autumn Bliss' shows resistance to aphids.

Q Is there a simple way to manage raspberry diseases?

A Most raspberries will succumb to disease in time and cropping will gradually decline. Replace your canes every six years or so.

MINERAL DEFICIENCY

Q How do I recognise mineral deficiency?

A The two most likely deficiencies are of iron and magnesium. The symptoms are yellowing leaves, especially between the veins, with the veins remaining green. These symptoms can look similar to viruses so it is advisable to treat the plants for mineral deficiency first, as this is curable. Iron deficiency shows up in the youngest leaves first, which can turn completely yellow. It is more likely to occur if your soil is alkaline as raspberries prefer a pH of 6.0 to 6.5. Spray with a foliar feed containing chelated iron. If the symptoms are worse in older leaves, you should suspect magnesium deficiency, which is more likely on light, acid, sandy soil. It can also occur in soils with excess potassium, which can interfere with magnesium uptake.

Spray with a solution of magnesium sulphate (Epsom salts) two or three times at two-week intervals; use about 500g in 10 litres of water.