

FUNGAL PROBLEMS

Topics covered in this section

- Diagnosis of fungal diseases
- Fruit spray programmes

Additional useful references: Manufacturers' literature (product brochures, pest and disease identification charts) and reference books.

Diagnosis of problems

A wide range of fungal diseases attack plants. If these are not controlled or prevented, plants will quickly deteriorate and possibly die. It is particularly important to take action quickly when disease problems are spotted, as they can spread rapidly to other plants. Where plants are very badly affected, they should either have the most diseased parts removed or destroyed, depending upon the circumstances and plant type, to prevent the disease spreading to healthy plants. If surrounding plants are likely to be affected they should be sprayed to avoid further problems.

Examples of the types of damage caused to various parts of plants by different fungal diseases are given in the following sections.



PEACH LEAF CURL

FOLIAR SYMPTOMS

'Fluffy' growth

Botrytis or grey mould, as it is commonly called, affects strawberries and many greenhouse plants. As the name suggests, it covers leaves with a fluffy mould which is greyish in colour. **Downy mildew** can affect brassicas, lettuce and onions. It is less common than powdery mildew (see next section) and its symptoms are a fluffy grey or purplish mould on the underside of the leaves. The upper surface of the affected leaves usually has corresponding yellow areas.

Powdery deposits

Powdery mildew can affect a wide range of plants, including roses and other ornamentals, and most fruit trees and bushes. Unlike downy mildew, the fungus occurs mainly on the top surfaces of the leaves as powdery, white deposits. **Rust** initially appears as orange or reddish brown powdery deposits on plant leaves. Roses, leeks, hollyhock, fuchsia, pelargonium and chrysanthemum are among the plants which are most likely to be affected.

Spotting/discolouration of leaves

There are many types of leaf spots which affect plants, ranging from celery, currants and gooseberries to many ornamentals. One of the most common types of leafspot is **blackspot** of roses. This causes blackish spots to appear on the leaves which eventually become yellow and are shed early.

Blight can affect both tomatoes and potatoes. On potato plants it causes the leaves to turn brown and the plant eventually dies. Affected tubers also rot in the ground or in store. The same symptoms occur in affected tomato plants and the fruits develop hard, black areas.

Although **apple and pear scab** is a disease which is most evident on the fruit, it also causes black areas to develop on the leaves. **Peach leaf curl**, which can cause problems on other stone fruits and almonds, as well as peach trees, results in the leaves becoming thickened and either red or purple.

Seedlings

Damping off is a common problem with seedlings, causing them to collapse/topple over. It is exacerbated by sowing too closely together and/or through very damp growing conditions.

FUNGAL PROBLEMS

Roots, stems and tubers

Club root is a particularly serious disease which affects all types of brassicas, stocks and wallflowers. The roots of affected plants become swollen and growth is severely impeded. Crop rotation will help to prevent build-up of fungal spores, which can persist in the soil for many years. Where brassicas are to be grown it is also advisable to lime the soil beforehand, as the club root fungus thrives in acid conditions.

Hard, brown corky areas on potatoes may be indicative of **potato scab**. There is no chemical treatment for this. Avoid liming where potatoes are to be grown to help prevent scab.

Fungal and bacterial wilts such as Verticillium Wilt and Bulb and Corm rots, can affect the stems and bases of plants, causing them to become dark, sometimes slimy, and lead to plant collapse. Control is difficult in most cases. Badly affected plants should be destroyed and the remainder treated with a suitable fungicide. Bacterial Canker can affect stems as well as leaves and causes red/brown oozing oval wounds.

Fruit problems

Top fruit, cane fruit, stone fruit and soft fruit are all prone to fungal attack. Some examples of fungal problems affecting the different types of fruit are given below.

In the same way that it is wise to spray fruits regularly to tackle insect pests, it is also sensible to have a fungicide spraying programme to help prevent fungal diseases of fruit. Details of development stages to apply sprays for various types of fruit are given later.



DAMPING OFF

FRUIT KEY

APPLES



PEARS



ALMONDS



CHERRIES



PEACHES



APRICOTS



PLUMS



BLACKBERRIES



CURRANTS



GOOSEBERRIES



HYBRID BERRIES



RASPBERRIES



STRAWBERRIES

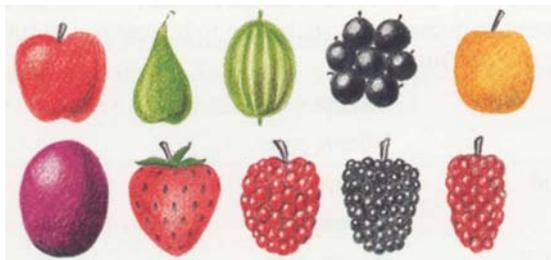


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Fruit diseases

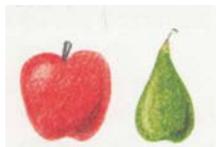
Powdery mildew

Symptoms: White, powdery patches on leaves, flowers, stems and buds.



Scab

Symptoms: Black, cracked area on fruit, dark spots on leaves.



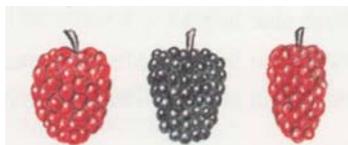
Apple Canker

Symptoms: Swollen areas on shoots and stem lesions.



Cane spot

Symptoms: Small purple spots on canes which enlarge to form white pits with a purple border.

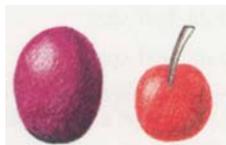


Bacterial canker

Symptoms: Flat cankers which ooze gum.

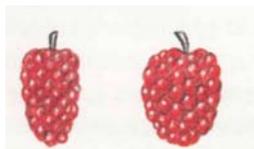
Affected branches produce few leaves and die-back occurs. Leaves can develop a 'shot-hole' appearance.

Serious disease of stone fruit.



Spur blight

Symptoms: Purplish patches appear around the buds in early autumn. The patches become silvery and the buds are killed.



Peach leaf curl

Symptoms: Thickened, distorted red or purple leaves.



Storage rots

Symptoms: Affected fruit becomes brown or blue/grey and soft in store. Remove affected fruit to prevent problem spreading to other fruit.

Only store sound, unblemished fruit.



NOTES



APPLE SCAB

FUNGAL PROBLEMS

Fruit and rose spray programmes

Spray fruit at the following developmental stages for the disease concerned with a suitable product. (Some varieties of grapes and gooseberries may be sensitive to sulphur based fungicides. Users should check with the manufacturer or plant supplier). *On fruit and vegetables, always check the use recommendation and harvest interval for the crop.*

Top fruit



Timing

Bud burst
Green/white/pink bud
Petal fall
14 days after petal fall
Fruitlet
14 days intervals in June/July

Disease

Mildew, scab
Mildew, scab
Mildew, scab
Mildew, scab
Mildew, scab
Mildew, scab

Stone fruit



Bud burst
White/pink bud
Mid August
Mid September
Mid October
Leaf fall

Mildew, peach leaf curl
Mildew, peach leaf curl
Bacterial canker
Bacterial canker
Bacterial canker
Peach leaf curl

Cane fruit



New cane emergence
Bud burst
White bud to harvest (14 day intervals)

Cane spot, spur blight
Cane spot, spur blight, mildew, grey mould
Cane spot, spur blight, mildew, grey mould

Bush fruit



Pre-flower opening
Fruit set
3 weeks after fruit set

Mildew, grey mould, leaf spot
Mildew, grey mould, leaf spot
Mildew, grey mould, leaf spot

Strawberries



Apply a fungicide recommended for control of grey mould just before the flowers open and thereafter at 10 day intervals.

Roses



To help prevent insect pest and disease problems either apply a combined insecticide and fungicide product or treat insect pests and diseases with separate sprays.

Product benefits

Fungicide products may have particular features or benefits. These may include one or more of the following:

- Systemic (ie likely to have a longer period of protection and less need to be thorough when applying)
- Curative (some fungicides offer protection only and have little if any curative properties)
- Versatile (may be used on both ornamental and edible plants)
- Combined products (ie combined insecticide and fungicide)
- Short harvest interval
- Particularly effective
- Based on naturally occurring ingredients and therefore possibly accepted by organic gardeners



BLACK SPOT ON ROSES

ALWAYS READ THE LABEL. USE PESTICIDES SAFELY