

## Diseases and pests

### Important notice

With the exception of clematis wilt, the following diseases and pests are also to be found on other plants both decorative and culinary. Any advice concerning prevention which involves the use of pesticides and/or insecticides in the following section should be regarded as general information. Get professional advice from your garden specialist before you use any product and be aware of the rules and regulations in your area regarding their use.

### **Clematis wilt:**

This is certainly clematis' number one problem! Everyone who has planted clematis has, at some time or other, been aware of this disease – or, at least, seen the symptoms in some form or another. You stand by, quite helpless, as your clematis wilts, turns brown and finally dies in a sad state! The reason for this is Phoma – previously known as Ascochyta - a paracitical fungal disease which attacks the fibres responsible for transporting the sap, they become infected and, finally, are completely blocked altogether. The cause of infection depends on several important factors all coming together at once. The most vulnerable candidates are the large flowered hybrids which belong to the pruning group 2 rather than to those in group 3.



Infection beginning

Wild species and their kind are very rarely affected.

Once infected, the only thing to do is cut the clematis right back to soil level and, in almost every case, the plant will quickly send out new shoots from below the soil where there is no infection present – however, this is not the case every time. Several weeks or months can pass before any new shoots grow again – in some cases, even years. Clematis has been known to start growing again after three years!



Infection advanced

If you do not possess such patience, then your best bet is to buy the wild species and their relatives. Within this section you will find several varieties with larger flowers, e.g. the many sorts of the viticella group and their cultivars.

This infection is rather susceptible to temperature, too. Several other factors like stem damage together with heavy rainfall or even watering over the leaves cannot be taken too lightly. Only when all these come together at the same time, the door can be left wide open for a Phoma infection – although this is not always necessarily so. The weather plays a part as well; the summer temperature rises above 20°C and then is followed by heavy rainfalls or the nights are foggy and clammy – the perfect conditions for your clematis to fall victim to this

fungus. A Phoma infection can only get a hold when conditions are too wet. It is to be noted that clematis growing on a wall are less susceptible to infection than those in a more open position in the garden which get every drop of rain. You could spray with a preventative fungicide which fights the different leaf-spot fungal infections. Remove the lower infected leaves when first seen; this is quite a successful tip when trying to combat this disease.

It is advisable to change the soil if you want to plant clematis in the same place where this infection occurred before.

Another disease with similar symptoms is Fusarium (or Rizcothonia), which attacks the plant above the roots and travels up through the stems. It occurs mainly in wet weather particularly on the Atragene group (the Atragene genus includes all the *C.alpina*, *macropetala*, *koreana* and their relatives).

Cure: Choose especially resistant varieties, change the soil, keep the leaves dry, keep the top soil in a drier state and remove the leaves at the first sign of infection. Treating with chemicals is only possible by using products allowed for sale.

### **Powdery and downy mildew:**

Some species get powdery and downy mildew infections.

Most clematis is infected by powdery mildew, which appears as a whitish-grey powdery coating on top of the leaves or just on the stalks at first. It is first seen as little spots and later these grow bigger and if the primary infection is not treated immediately, the flowers will also get covered. Clematis *texensis*, *viticella*, *recta*, *integrifolia* and also the pruning group 3 hybrids can all get infected. Mildew is prevalent when a bad air-flow is combined together with high humidity. Infected plants, other than clematis, could also be the cause as well. A downy mildew attack starts on the underside of the leaves and looks grey. This sort of fungus is easily recognizable and begins initially on the lower leaves at the base of the plant.



Cure: Spray with a fungicide which is also used for treating mildew(s) on roses.

### **Grey mould / Botrytis:**

Often occurs on plants in winter gardens or greenhouses and the evergreen clematis are particularly vulnerable when there is not sufficient daylight at this time of year and when there is no air circulation. The infection first starts on the dead parts of the plant, but it could also attack living parts if the room is not ventilated enough.

Cure: Greatly reduce the humidity, ventilate well and remove all dead parts of the plant.



**Physiological/mineral deficiencies:** Lack of iron can be noticed in some species of clematis, especially when the soil is not as good as it ought to be. A heavy chalk soil is more likely to be in danger of an iron deficiency (Chlorose).

Cure: Plant grafted clematis; introduce peat or scatter an acid based fertilizer into the soil. There are several different products to deal with the lack of iron available in chelat form (formulae for aiding absorption of the minerals).

**Scorching:** Scorch or burn marks are caused by the intensive heat/brightness of the sun's rays or through a water deficiency or even when fertilizer is accidentally splashed onto the leaves. Never underestimate the heat caused by the smoke either, e.g. a garden barbeque. Also spraying very cold water over hot leaves can caused such scorching.

**Virus diseases:** Present themselves in many different forms and are often the cause for a plants stunted growth. It is the mosaic virus which is the most common. Other viruses are not easy to eradicate and cause unnaturally deformed leaves and flower stalks.

Cure: Is difficult. The cause can be traced back to lack of hygiene when propagating.

### **Pests**

**Slugs and snails:** Are the arch enemies number one of clematis! The night activities of slugs is most troublesome and particularly the little slugs being the main culprits. They tend to hide underneath bushes (and the like) during the daylight hours. To fight these pests you can buy several sorts of remedies such as: - nematode predators, slug and snail pellets, traps or barriers. Slug pellets are used most, although, sadly, not correctly applied!



**Red spider mites:** These minute red spiders cause damage by sucking the sap from the leaves, causing yellow spots which finally turn brown. The first sign of infection is seen on the underside of the leaves which will later travels slowly to the upper side. Red spider mites love the dry warm and airy conditions, which explain why they can be found more in summer months. This pest is quite difficult to eradicate. The first action is to pick off any infected leaves. Several sorts of chemical insecticides are available in garden shops and centers and also biological control can be bought which are based on rape-seed oil, Pyrethrum or Neem tree extract.



**Aphids:** Blackfly or greenfly often appear in the early summer months and cause damage by sucking the sap from young shoots, leaves, buds or flowers. After an extreme aphid attack, the shoots and leaves emerge deformed and later remain in this typically distorted state. In our garden we find many culinary plants which provide perfect breeding grounds for such pests. Bring in earwigs to counteract against the aphids and you will find that they themselves become a pest after eating the greenfly! Further natural enemies of aphids are various song birds, lacewings and their larvae and ladybirds. You can easily fight aphids with different sorts of insecticides.



**Earwigs:** Are also active during the night and feast on the leaves and flowers, leaving little holes behind. In spring, though, they are very useful as they will eat greenfly but when these are not to hand, the earwigs will, unfortunately, start eating pollen, young new growth, buds or flowers. Any large bud with a suitable hole in it will be the perfect hideaway during daytime. Earwigs can be caught with homemade traps.



### **Thrips /Thunder fly:**

Infection can be seen as little white marks on the flowers caused by the insect sucking the sap out of the petals. These tiny little flying insects sit and hide in the stamens of the flowers and cause damage by sucking sap throughout the summer months. Use the same insecticides as for the above.



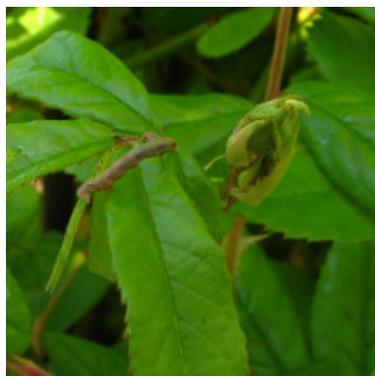
### **Leafhoppers, weevils and cicadae:**

Are insects which suck out the sap of the leaves, flowers and stalks and in doing so cause these parts to get distorted. A typical sign is the leaf curling backwards or the flower bud looks warped. They have a preference for roses, which are the main host for these insects. Once again, the treatment against these insects is as above.



### **Caterpillars and leaf miners:**

These insect pests concentrate on the leaves. There are two different ways in which they do damage; the caterpillars eat holes in the foliage, whereas the leaf miners tunnel throughout the inside leaving a clearly definable trail seen on the upper side of the leaf. Affected is mainly clematis, as well as other plants, which normally have soft leaves.



### **Vine Weevil and their larvae:**

Clematis which are near to a Thuja, Ilex or Rhododendron bush is more than likely to be affected by this pest. The larvae eat parts of the plant and roots which are beneath the soil and then the black coloured beetles come out at night and feed on the leaves, leaving typical rounded cut-out sections.



### **House mice/field mice/voles:**

Mice are the cause of much damage to our cultural plants, and they are on the increase. Voles do particular damage to plants beneath the soil's surface, often eating the roots quite undetected. Once the plant recovers, it is then when you notice how very sickly it is or it does not continue to grow much at all.

