

Aphids on vegetables

GWF207
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There are many types of greenfly, and they attack a wide range of plants. Luckily, only a few types build up in large enough numbers to do significant damage.

Q What are aphids?

A Aphids are extremely common, sap-sucking bugs. The group includes greenfly, blackfly, root aphids and woolly aphids. There are many kinds, each with different host plants and life cycles. Most occur in small numbers and do little harm. They spread on the breeze, and tend to settle in sheltered sites.

Q What damage do they do?

A Aphids weaken and stunt plants by sucking plant sap. They excrete honeydew, a sugary substance that sticks to leaves, which then become colonised by sooty moulds. They also spread virus diseases.

If possible, try to live with them as they mostly do little damage. Natural predators, parasites and diseases will often get rid of them.

Q Which ones am I most likely to see?

A Telling most of them apart is a job for an expert, but the following are distinctive:

Cabbage aphid (*Brevicoryne brassicae*) is blue-grey and forms dense colonies with a mealy appearance because of the waxy covering the greenfly produce. They feed on the undersides of leaves of cabbage-family plants, including weeds such as shepherd's purse, and make the leaves curl and distort. However, they also can

infest Brussels sprouts and cabbages more severely, making them inedible.

Willow-carrot aphid (*Cavariella aegopodii*) is an ordinary-looking greenfly that is quite hard to see. It attacks celery, carrots and parsnips in May and June. The plants become stunted and covered in honeydew, which gets covered with dead greenfly, making plants look as if they are diseased. After July, the greenfly disperse to their winter host plants - willows.

Peach-potato aphid (*Myzus persicae*) looks very similar to other greenfly. It seldom builds up to the large numbers seen with cabbage aphids, but it is especially effective at passing on viruses. Potatoes and lettuce are particularly at risk so using your own potato 'seed' tubers can be unwise. The virus won't have much effect on the current year's crop, but plants raised from infected 'seed' will be heavily infected and are likely to crop poorly. Bought 'seed' potatoes are raised in cool, northern areas where aphids fail to thrive and should also be virus-free.

Q When should I expect attacks?

A Aphids don't usually start to multiply until late spring, but can reach very high numbers very rapidly. They achieve this by giving birth to live young. In fact, the young carry more inside them, even when they are born.

Q Do they turn up every year?

A Aphids survive as eggs on host plants, as adults in sheltered spots outside, or on plants in greenhouses until the spring. Winged aphids spread by drifting on the wind. Although this sounds random, there are so many aphids that few gardens escape.

Some years are much worse than others. Aphid numbers depend on the weather, how many pests and predators attack them and the effect of diseases.

Q Why do some have wings and some not?

A Aphids have different forms. When their population is high, or predators are about, or at times of the year when they disperse to alternative food plants, winged forms develop. When they find new hosts, the winged forms lose their wings and give rise to wingless aphids again.

Q Which plant diseases do they spread?

A They are very important carriers of viruses. For example, willow-carrot aphid carries carrot motley dwarf virus. When it feeds on parsley, the virus causes serious damage. The virus is more damaging than the greenfly. The parsley turns reddish to start with, but soon goes yellow and becomes unusable.

Q Can they be sprayed?

A Contact insecticides such as those based on bifenthrin, fatty acids, rotenone or pyrethrums, only kill the aphids with which they come into direct contact with. To get all the pests, you have to be careful to spray the whole plant. Or try a systemic insecticide containing thiacloprid or imidacloprid which can be used on some food crops, check the pack carefully for the harvest interval and what plants it is approved for.

Some aphids are resistant to insecticides. Peach-potato aphid and the melon-cotton aphid, especially those found in greenhouses, are examples of this. If your sprays don't seem to be working, switch to ones based on fatty acids.

Q Can they be avoided?

A Early and late sowings often escape the worst of the aphid fly-ins. Carrots sown in June are likely to escape both carrot fly and willow-carrot aphid.

Q What can organic growers do?

A Organic aphid killers, such as those based on rotenone or pyrethrums or fatty acids, work very well if carefully applied to cover the whole of the plant. Repeat sprays will be necessary until the aphids are controlled.

You can exclude aphids from plants by covering with horticultural fleece or insect-proof mesh, but the plants must be completely free of aphids before you cover them.

Fleece captures too much warmth for summer sowings. To avoid cooking your plants, use the better-ventilated insect-proof mesh for these sowings. If you raise your young cabbage-family plants in seedbeds covered by fleece or mesh, you will have strong, pest-

free transplants to put out. These covers will also protect against flea beetles and cabbage root fly.

Q Are there any biological controls?

A Natural pests and diseases often kill great numbers of aphids. Sadly, they often fail to do this before the damage is done.

Predators and parasites can be introduced to control greenfly. They are not equally effective against all aphids. They work best in greenhouses, frames and under cloches where they are less likely to stray from the plants you are trying to protect.

Q How do I use biological controls?

A Introduce the parasites and predators as soon as you see the greenfly, once temperatures are greater than 10°C. Two introductions of *Aphidolytes aphidimyza*, a tiny (2mm) midge, should be enough. More will be needed if the plants get heavily infested. Each female lays about 100 eggs during its two-week lifetime. The tiny larvae eat about five adult or 15 juvenile greenfly during their one to two week development time. They work best in warm, well-lit conditions.

Aphidius is a parasitic midge that is good at hunting down and finding greenfly. They lay eggs inside them and the larvae eat the greenfly from the inside. Use this parasitic midge when you only have a few pests.

If you choose biological controls only use fatty acid-based insecticides. Other chemical treatments may kill the helpful insects.

Q What should I do with infested plants?

A Cabbage aphid infested brassicas

should be chopped up and composted thoroughly before the end of May, or they can be burned. Woody stems can be covered with eggs so, unless the stems are efficiently destroyed, the eggs can hatch and infest new crops. Carrots, parsnips and parsley left over in the spring harbour many willow-carrot aphids. These overwintered root vegetables must also be destroyed before May by thorough composting.

Suppliers of biological control

Biowise 01798 867574
www.biowise-biocontrol.co.uk

Defenders 01233 813121
www.defenders.co.uk

Green Gardener 01603 715096
www.greengardener.co.uk

Harrod Horticultural
0845 402 5300
www.harrodhorticultural.com

Just Green 01621 785088
www.just-green.com

The Organic Gardening Catalogue 0845 130 1304
www.organiccatalog.com

Scarletts 01206 242533
www.scarletts.co.uk

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. The only exception is when we have tested a brand and chosen it as a **Best Buy**. If you need any more information on chemicals, please ask for our factsheet GWF281.