
PLAGRON
Pests: Recognition and control

Content

Pests: Recognition and control

As a grower you want the best plants and a high, tasteful yield. Unfortunately a plant attracts all kinds of creatures that can make your plant sick. This guide is meant to help you if you suspect your plants suffer from pests. The flowchart on the next page tells you what each creature looks like. You'll also learn which damage is caused by which pest. You can then go to the page for this specific creature. Here you'll learn how to prevent (further) damage.

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Pests on plants

Damage to the leaves

CICADAS
1 Small, light green insects.
2 Suck the juice out of the plant.
3 Leaf discolours or dies off.
p. 10

THRIPS
1 Slender insects with frayed wings.
2 Grey/brown coloured.
3 White suction areas on the leaf.
4 Dark spots from excrement visible on the leaf.
5 Plant may eventually die.
p. 12

SPIDER MITES
1 Mites the size of a pinhead.
2 Spider mites are the most common mite.
3 Suck the juice out of the plant.
4 Many small white spots on the leaf.
5 Leave behind a web.
6 Plant may eventually die.
p. 14

SLUGS AND SNAILS
1 Snails have a shell, slugs do not.
2 Quickly eat large parts of the plant.
3 Slime trails.
4 Holes in the leaf.
p. 16

APHIDS
1 Usually green.
2 Usually on the growth points of the plant.
3 Suction areas on the leaf.
4 Leaves white cast skins.
p. 24

CATERPILLARS
1 The larvae of a butterfly
2 Nibbled holes.
3 Curled leaf edges.
4 Quickly eat large parts of the plant.
5 Different kinds.
p. 18

LEAF MINERS
1 Small yellow-green/ grey or black fly.
2 Lays its larvae in the leaf.
3 Larva digs tunnels through the leaf.
p. 26

WHITEFLIES
1 Small white flies.
2 Leaves honeydew on the leaf.
3 Leaf becomes yellow.
p. 28

Wilting of the plant

CABBAGE ROOT FLIES
1 Look like small flies.
2 Larvae eat the roots.
3 Plant cannot absorb enough water.
4 Plant goes limp.
5 Plant may eventually die.
p. 8

CARROT FLIES
1 Small black/green fly.
2 Larvae eat the roots.
3 Plant goes limp.
4 Plant may eventually die
p. 20

CENTIPEDES
1 Small white centipede.
2 Cannot be spotted without submerging the pot.
3 Eats the roots.
4 Plant goes limp.
5 Plant may eventually die.
p. 6

FUNGUS GNATS
1 Small black mosquito.
2 Larvae in soil.
3 Plant grows slowly.
4 Parts of the plant die
p. 22

Centipedes: how to recognise damage?

Centipede damage is not instantly recognisable because centipedes eat the roots of your plants. They favour young plants. This damage to the roots stunts growth and reduces the crop yield. It also gives bacteria and fungi the chance to take hold in the damaged roots.

How to prevent (further) damage?

Are you not sure if your plants have been infested with centipedes? Then place your potting compost in a bucket of water. If you have centipedes, they will float to the surface and are easy to remove. You can also steam the soil to prevent the centipedes from spreading. Steaming from beneath stops the insects from going deeper into the soil.

About centipedes

Centipedes live in tunnels and cavities in the soil. They cannot make their own tunnels but use existing ones. An adult centipede has 12 pairs of legs and is 6 to 10 millimetres long. Centipedes feed on dead plant material, yeasts, fungi, manure and soil. However, to reproduce they need to eat fresh plant material.

Cabbage root flies: how to recognise damage?

The symptoms of cabbage root fly damage are almost always the same. The larvae eat the main root, causing it to turn brown at first. Eventually, it turns black and rots away completely. Damage can also be seen in the leaves. Since the root is damaged, they do not receive enough water and therefore wilt.

How to prevent (further) damage?

Avoid planting outside during the second half of April. Also ensure that the fly cannot lay its eggs near your plant. To do so, use a cabbage collar. This is a round or square piece of plastic or cardboard that protects the area around the stem of your plant. You can also repel the cabbage root fly using strong smells like dill, coriander or basil.

About cabbage root flies

The cabbage root fly looks like a smaller version of the housefly. Do not be deceived by its size, as it can cause serious damage to your plants. The cabbage root fly lays its eggs a few centimetres from the plant stem. When the eggs hatch, the larvae burrow their way into the stem and tuck in. If this has happened, there is no real remedy anymore.

Cicadas: how to recognise damage?

Cicadas produce rows of spots on leaves, fruit and flowers. This considerably reduces the quality of the end product. In case of a serious plague, the leaves may completely discolour and die off. Cicadas can be recognised by their light green colour. In some cases, they can damage the leaves or tips of your plants by sucking sap out of them.

How to prevent (further) damage?

Most cicadas are eaten by various groups of animals. These include birds, reptiles, amphibians and small mammals. Spiders, bugs and braconid wasps also hunt cicadas. Braconid wasp larvae eat the eggs, the nymphs and the adult cicadas. An egg is laid inside the prey, after which the wasp larva eats the victim from the inside out.

About cicadas

Cicadas are usually green. An adult insect is two to three millimetres long. A female cicada can lay up to 50 eggs in her life. These eggs are white, kidney-shaped and 0.6 millimetres long. These eggs are laid in leaf veins and stems, where they cannot be seen with the naked eye.

Thrips: how to recognise damage?

Thrips cause silvery damage to the leaves of your plant. This is the result of the thrips sucking the leaf cells dry. They do this by scraping over the leaf. Thrips also leave their excrement on the leaves in the form of dark spots. You can also recognise damage caused by thrips due to deformation of the leaves or reduced growth.

How to prevent (further) damage

We always recommend biological control. To get rid of thrips this way, you can make use of the predatory bug Orius. You can buy these natural predators of thrips online and in most garden centres. Adult Orius tuck into any stage of thrips, while the nymphs prefer the larvae. Orius also take care of other insects like aphids, mites and whiteflies.

About thrips

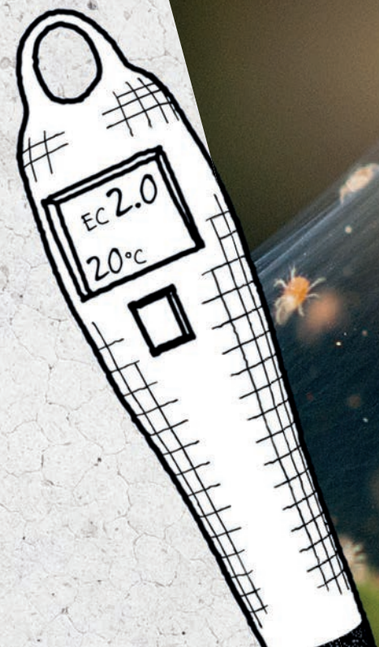
Thrips are small, slender insects with fringed wings. They are greyish to brown in colour and at most a single millimetre long. The females lay their eggs in the plant's tissue. They make an opening in the tissue in which they lay their kidney-shaped eggs. The larvae start eating as soon as they have hatched.

Spider mites: how to recognise damage?

A spider mite infection can cause considerable damage to your plants in a short time. Damage is first visible in the form of white or silvery spots. Next, you'll see yellow spots that may eventually take over the entire leaf. At the last stage, the plant is covered in a white web. The mites themselves are usually found on the bottom of the damaged leaves, where they feed. Since mites suck the nutrients out of the plant, it won't be able to grow anymore.

How to prevent (further) damage?

An easy way to prevent mites is to place a clove of garlic next to your plant. The plant will absorb some of the garlic's smell. This keeps the mites away. Mites are also not keen on a high humidity or a low temperature.



About mites

Mites measure between 0.2 and 0.5 millimetres and are difficult to see without a magnifying glass. Unlike most insects, mites have eight legs that point either forwards or backwards. The body is usually pear-shaped and yellowy-green, brownish or red. Mites prefer warm, dry conditions and therefore tend to attack plants that have been weakened by a lack of water.

Slugs and snails: how to recognise damage?

Slugs and snails can cause huge damage to your plant in a short period of time. You can recognise the damage they cause by the typical holes eaten out of the leaves. Of course, you will also spot their slime trails. Slugs cause more damage than snails.

How to prevent (further) damage?

There are a lot of things you can do to get rid of slugs and snails. Make sure to carefully organise your garden and to keep it tidy. This ensures that slugs and snails have less shelter. Also work the ground regularly to kill slugs, snails and their eggs. Additionally, don't rid your garden of natural predators like hedgehogs and toads. Slugs and snails don't like strong smells, like coffee grounds or garlic. Another thing they hate is copper.

More specifically, you can surround your plants with a sharp surface. Egg shells, gravel or sea shells are hard to cross for slugs and snails. You can also place a slug fence. This barrier out of plastic or netting can be placed around your plants. The top edge is turned back at an angle of 30 degrees. Slugs and snails cannot cross it because of this. Finally, you can place small containers with beer in the soil. Slugs and snails love the yeast in beer and will drown in it.

About slugs and snails

Slugs and snails come in all colours and sizes. Snails have a shell, whereas slugs do not. They have a tongue that contains thousands of miniscule teeth. This tongue works like a file, ripping leaves into small pieces. The top speed of most common garden snails and slugs is about 45 metres per hour. They enjoy cool and humid environments.

Caterpillars: how to recognise damage?

Damage caused by caterpillars can be recognised by leaves with nibbled holes or curled tips. This is traditionally seen in late summer and autumn. However, in recent years caterpillars have also been seen at the start of the growing season.

How to prevent (further) damage?

There are many different methods available for stopping greedy caterpillars. A single caterpillar is easily removed by hand. In case of a plague more severe measures are required. The bacteria Bacillus thuringiensis can be used as a natural pest control. This bacteria ensures that the caterpillar stops eating and dies. It is even better to make sure that you do not have any caterpillars in the first place. You should therefore look for any butterfly eggs on the higher leaves.

About caterpillars

Caterpillars are the larvae of butterflies. They are fairly inconspicuous animals, but some species play a large role in our daily lives and are generally well-known. Examples include the silkworm and the oak processionary caterpillar. Caterpillars are ecologically important. Not only do they eat enormous quantities of vegetation, they also serve as prey for many different animals.

Carrot flies: how to recognise damage?

The carrot fly can cause considerable damage to roots. Its maggots in particular can be very problematic. Carrot flies lay their eggs on the underside of the plant's leaves. The larvae that emerge from these eggs eat their way through the leaves towards the roots. The larvae first feed on the finer root hairs, which develop rusty-brown spots. They then start attacking the main roots.

How to prevent (further) damage?

Preventing further damage is actually very simple. First, clean the growing area. Next, check if your potting soil or substrate is still of sufficient quality. If not, you should improve the soil. Use Pure Zym to rinse the substrate before using it again. Another option is to add some cinnamon to boiling water. Let this extract cool down and then spray it on the soil. The smell keeps carrot flies away. Another smell they dislike is that of onions. You could consider planting some onions among your other plants.

About carrot flies

The carrot fly is between four and five millimetres long. Its abdomen is oval-shaped and shorter than the wings. One carrot fly can produce two or three generations each year. The carrot fly winters as a pupa near the carrots or as a maggot inside the carrot.

Fungus gnats: how to recognise damage?

You might not see the damage caused by fungus gnats straight away. This is because the larvae are active underground. They love the stems and roots of seedlings, young plants and cuttings. Damage caused by fungus gnats leads to plants absorbing less nutrients. The damaged roots are also more susceptible to bacteria and fungi. Symptoms above ground include wilting and stunted growth.

How to prevent (further) damage?

You can prevent further damage by removing dead plant debris. Also make sure not to water your plants too much, because fungus gnats like to lay their eggs in moist soil. Another tip is to add a thin layer of sand on top of your soil. Since fungus gnats can't cross this it stops them from laying their eggs underground. Still found larvae in the soil? Then you can combat them using nematodes, the natural predator of the fungus gnat. This parasite kills any larva it comes across.

About fungus gnats

Fungus gnats are small, dark gnats with long antennae and legs. They are between three and five millimetres long. Their preferred conditions are warm, damp and near plants. As such, in greenhouses they can be found all year long. After mating, the females lay between 50 and 200 eggs that hatch within two to three days.

Aphids: how to recognise damage?

You can recognise aphid damage by the many white cast off skins left on the leaves or growth points of the plant. Aphids suck the nutrients and sap out of green plants. Every time an aphid bites into the plant, it forces its saliva into the plant cells. This infects the plant with viruses and weakens it. As a result leaves will discolour, wilt or become sticky.

How to prevent (further) damage?

Aphids have several natural predators. One of the most important ones is the ladybird. You can buy special boxes at garden centres to attract ladybirds into your garden. This way you can let nature run its course. Other natural enemies of aphids include the lacewing and the earwig larvae. Make traps with straw or newspaper and hang them in a tree overnight. Earwigs will crawl in. Put these on your plant and they will get rid of the aphids for you. You could also spray your plants with cold water. Repeat this every few days and the aphids will soon leave your garden.

About aphids

Aphids are usually green, but can also be white, black, yellow, red or purple. Usually they are no bigger than half a millimetre. They look for the growth points of a plant, such as the top of a young stem.

Leaf miners: how to recognise damage?

Leaf miners can cause a lot of problems. They lay their eggs in the centre of a leaf. The hatching larvae then dig tunnels through the leaves to get to their food. These tunnels leave very noticeable white markings behind. The damage leads to leaves drying out and falling off. Adult female leaf miners can also cause cosmetic damage. They create dot-like wounds where they feed. These wounds are a perfect breeding ground for bacteria and fungi.

How to prevent (further) damage?

You could use the braconid wasp to combat leaf miners. This natural predator lays its eggs inside the larvae of the leaf miners, wiping out a new generation.

About leaf miners

The body of the leaf miner is yellow-green, grey or black. Its length varies from 2 to 6.5 millimetres. There are three varieties of leaf miner that can become a pest. These are the grain leaf miner, the serpentine leaf miner and the tomato leaf miner. Leaf miners are found worldwide on the stems, leaves, seeds and roots of plants and crops.

Whiteflies: how to recognise damage?

Whiteflies can damage plants in various ways. First of all, they prick the leaves to extract nutrients. This causes the leaves to turn yellow and eventually fall off. Whiteflies also have toxic saliva that can cause a lot of damage to plants. Additionally, the insect can spread viruses. Finally, whiteflies secrete honeydew on the leaves. This makes for an excellent breeding ground for fungi.

How to prevent (further) damage?

It can be hard to get rid of whiteflies. The most common type (the greenhouse whitefly) has developed a resistance to pesticides. You could try spraying water onto the plant to get rid of them. If you use this method, make sure to also get rid of the larvae. You could also make use of the braconid wasp. This natural predator lays its eggs inside the larvae of the whitefly.

About whiteflies

Whiteflies are easy to see with the naked eye. The small, white flies are about one to three millimetres long. They are mostly found on the young leaves at the top of the plant. If there are a lot of them and you shake the plant, you will see a white cloud rising up.

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