

Cabbage caterpillars

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The cabbage family is commonly attacked by the caterpillars of butterflies and moths.

Q What are caterpillars?

A They are the larvae of moths or butterflies that feed on the leaves of many plants. They strip foliage, tunnel into the hearts of cabbages and spoil produce with their droppings or frass.

Q Which caterpillars will attack cabbages?

A There are two cabbage-white butterflies that do serious damage: the large white (*Pieris brassicae*) and the Small White butterfly (*Pieris rapae*).

Damage is also caused by moth caterpillars. The Cabbage Moth (*Mamestra brassicae*) is the most common, especially in gardens. The diamond-back moth and the garden pebble moth are locally important. The silver-Y moth (*Autographa gamma*) is only periodically important, as in 1996 when many flew in from the Continent. Occasionally, others are seen such as the tomato moth, the flax tortrix moth and dot moth caterpillars.

Q Can they be told apart?

A The large white butterfly likes to lay its eggs in sheltered spots, so gardens are ideal. Its caterpillars are pale green, often with a yellow hue, and heavily

dark-speckled. Look out for a strong, yellow line down the centre of their backs and light hairs. Caterpillars of the small white butterfly are velvety green, again with a yellow line down the middle of their backs. When fully mature they are both about 3-4cm long. Both the adults are white with black wing markings and are very common. There is also a green-veined white, but it doesn't often attack cultivated plants.

Cabbage moths are plain grey-brown with some white markings. Flying at night, they are seldom noticed by gardeners. Their light-green/brown caterpillars are 4cm long when fully grown. Unlike the cabbage butterflies, they don't have many hairs.

Diamond-back moths are elongated, 6mm long and narrow with long antennae and white wing edges. When closed, the white marks form a rough diamond pattern. Its light-green caterpillars live on the leaf undersides in a web, and can reach 14mm long. Garden pebble moths are night-flying, small (25mm) brown and yellow moths. Caterpillars are yellow to green, with a darker-green stripe on their backs and a yellowish stripe down their sides.

Q Are only cabbages attacked?

A Cabbage-white caterpillars feed on any cruciferous or cabbage family plants. Vegetables are the usual hosts, but ornamental plants are also eaten - stocks and nasturtiums being favourites. diamond-back moths and garden pebble moths will feed only on cruciferous or cabbage family plants, but cabbage moths will also be drawn to lettuce and some ornamental plants too.

Q Can the symptoms be mistaken for anything else?

A Slugs can spoil the hearts of cabbages, but instead of leaving frass, they leave slime trails. (Pigeons also strip foliage which may be mistaken for caterpillar activity). The eggs of slugs can be confused with ladybird eggs, so if you're not sure, wait until they hatch then spray any caterpillars.

Q When should I expect to see attacks?

A Large whites emerge in the spring and seek out cabbage plants, laying as many as 200 eggs in clumps beneath the leaves. Two weeks later the eggs hatch and caterpillars emerge. They feed in a colony at first, then

disperse, but not far, so if you find one, you will find others. Once fully grown, they pupate away from plants, soon hatching into butterflies. The second generation in July and August are numerous and very damaging.

The **small white** is similar, emerging a little earlier in the spring, laying eggs and producing caterpillars which feed singly. The chrysalids form on the plants. There is also a second generation of small whites which cause damage into the autumn. The second generation of both types will not hatch until spring.

Cabbage moths are on the wing at night during May and June, laying batches of round eggs on the leaf undersides which will hatch after two weeks. The caterpillars feed for at least a month before they mature. They pupate in the soil, and generally hatch the following spring. But a few will hatch in late summer and into the autumn. They can be found in early winter if it is mild. The chrysalids of the second generation hatch in the spring.

Diamond-back moths overwinter as pupae on plant leaves and stems. They emerge the following year in late spring to early summer, flying both by day and night. Eggs are laid beneath the leaves. When they hatch, the caterpillars feed beneath a web under the leaves for about three weeks until fully grown. They then pupate on the stems and leaves of their host plant, spinning cocoons. There are several generations per summer, with a two-week pupation period.

Garden pebble moths overwinter as cocoons containing caterpillars or as pupae in the soil. They emerge in late spring

and early summer to lay clusters of eggs on leaves. The caterpillars feed for three weeks before pupating. There is a second emergence in late summer. The caterpillars from these remain overwinter, pupating the following spring.

Q Are some years worse?

A The severity of the attacks is different each year, due to the effects of weather, immigration from across the Channel and from diseases which sometimes break out in the moth and caterpillar population.

Q What should I do about them?

A Serious outbreaks are best sprayed as soon as possible. Light attacks on a few plants can be dealt with by rubbing off any eggs and picking off and destroying as many caterpillars as is practical. To find the cabbage-moth caterpillars you will have to search in the centre of plants.

Q What sprays should be used?

A Contact insecticides are very effective. There are lots available such as Bug Free, BugClear Gun!, Sprayday Greenfly Killer Plus. Adhere to the harvest interval - the length of time you must leave between spraying and harvesting. This will be given on the chemical container.

Q Can plants with caterpillars in the hearts be saved?

A Once the caterpillar is inside the heart or head, it is almost impossible to kill. Treat early,

before the pest has a chance to get inside. Once caterpillars are inside, salvage whatever leaves you can by cutting out the damaged parts.

Q What should organic gardeners use?

A Try BugClear Gun! For Fruit and Veg or PY Insect Killer Spray.

Q Can I avoid the pest?

A Cover plants with insect-proof mesh or horticultural fleece. However, plants under horticultural fleece can get too hot in bright summer sun, so mesh is a preferable, if more expensive option.

Bear in mind winter sowings of cabbages often escape attack.

Q Are there any natural enemies?

A Parasites, birds and diseases kill many caterpillars. One advantage of *Bacillus thuringiensis* is that it spares natural predatory insects. With luck, these will destroy any remaining caterpillars.

Q What should I do with affected plants?

A Chop up the plants and compost them. If the caterpillars are deeply buried in a warm compost heap, they're unlikely to pupate successfully.

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