

Fruit-tree caterpillars

These are moth caterpillars that attack the leaves and buds of fruit trees. They are occasionally very destructive, but they are easily dealt with.

Q What are fruit-tree caterpillars?

A The two most important groups of fruit-tree caterpillar are the winter moth and the tortrix moth.

Winter moths are a group of pests that include the most damaging caterpillar, the winter moth itself (*Operophtera brumata*), the northern winter moth (*Operophtera fagata*), the mottled umber moth (*Erannis defoliaria*) and the March moth (*Alsophila aescularia*).

There are three related species of tortrix moth worth worrying about. Many more are rare visitors, but are safely ignored. Look out for the fruitlet mining moth (*Pammene rhediella*), the fruit-tree tortrix (*Achips podana*) and keep a special eye out for the summer fruit tortrix (*Adoxophyes orana*). This one is a real problem as it goes for the fruit, whereas the others prefer the foliage.

Q Which plants do these caterpillars feed on?

A Although considered a pest of apples, they also eat pears, plums and cherries. Tortrix moths can attack many plants and trees. The northern winter moth usually turns up only where birch trees grow near an orchard. The fruitlet mining moth's main food is hawthorn. They're not fussy about which kind of tree or shape of tree they attack.

Q How do I recognise winter moth caterpillars?

A Winter moth caterpillars are green with black heads and yellow stripes along their back and sides. Fully grown, they are 25mm long.

The Northern winter moth caterpillars are the same, except that the stripes are darker.

The March moth caterpillar is yellow/green with fine, dark green and yellow stripes, and yellow lines along the sides. It is similar in size to the winter moth, but thinner.

Mottled umber caterpillars are bigger, reddish brown with yellow sides and a dark, wavy stripe.

Q How do I know if winter moths are about?

A You're unlikely to notice the moths, but the caterpillars have a distinctive looping walk. The winter and March moth caterpillars spin a little shelter joining two leaves or a leaf and a bud. The first sign that they are attacking your trees is likely to be the leaf damage, by which time the caterpillars are long gone. They feed on young leaves as they expand, leaving irregular holes, and strip large quantities of foliage. The tree won't die, but it won't produce a crop that year, and you will only have a small crop the following year. The caterpillars may also attack flower buds and young fruitlets. This is likely if the leaves have not opened when the caterpillars emerge from the eggs.

When fruitlets are attacked they may fall early. If they survive, the surface heals leaving a corky, sunken scar. When the caterpillars nibble deeper, there is a navel-like depression in mature fruit. The fruit is edible, despite these marks.

Caterpillars of the mottled umber moth are not so damaging, as they seldom feed on fruitlets or flowers. They don't spin shelters of leaves so are easy to recognise.

Q How serious is the damage they cause?

A The overall effect of these moths on a healthy tree is usually small, and they have many natural predators. Neither overall growth nor cropping should suffer greatly, so you only need to take action when it looks as if the damage is going to be severe.

Q How can I tell that the damage is going to be severe?

A As soon as the buds show signs of growth, look for the tiny winter moth caterpillars on the fruit spurs and leaf buds. If you see ones with a looping gait, be ready to take action. In cold weather they may shelter inside buds, so break a few open to check for caterpillars.

Q Can you tell me more about them?

A Female winter moths emerge between October and April and crawl up the trunk to lay their eggs. They have no wings and look more like a beetle or a spider. The male is the little moth often seen in car headlights in the winter.

The winter moth lays 100-200 orange eggs in bands or clusters on the twigs or buds. They usually hatch when the buds break; the caterpillars feed on shoots and then drop to the ground to pupate. The female moths cannot fly, but the tiny caterpillars parachute using silk threads and are carried by the breeze to other trees.

The male March moth is grey-brown with a 32mm wingspan. The female is drab and wingless. The eggs are laid on twigs and have a hairy covering.

Mottled umber moth males have a 42mm wingspan and are brown-yellow with darker mottling and banding on the wings. They fly mainly from October to December, with a few turning up until February. The female is, again, drab and wingless.

Q How do I control them?

A The caterpillars can be picked off by hand, but it's more effective to catch the female moths, which can be trapped by fitting grease bands round the trunk. You'll need to reapply grease regularly, and keep the bands free of debris. Fix them about 0.5m (2ft) off the ground in October and remove them in late spring. Where posts or ties allow the insects to bypass the grease, put one above the tie. The greasy zone should be 12-15cm wide. Don't use car grease directly on the trunk - mineral oils are damaging. Use grease sold for the purpose, as this can be applied directly on to the bark.

Q Is it worth spraying them?

A Rarely - but if it's really bad, try the controls for tortrix moths.

Q How do I recognise tortrix moths?

A Tortrix moths are nocturnal, whereas fruitlet-mining moths are active by day - they are dark brown with a 10mm wingspan and a pale, metallic wingtip.

The caterpillars are thin and up to 25mm long. Fruitlet-mining moth caterpillars are grey/green, summer fruit tortrix light green and fruit-tree tortrix whitish. Look out for them wriggling backwards when touched.

The caterpillars feed on leaves, often spinning shelters of leaves or rolling them into protective tubes. They then move on to fruit, usually hiding by attaching a leaf to the fruit with silk and feeding beneath it. The damage is only to the fruit surface.

Q Can you tell me more about them?

A Fruitlet-mining moth caterpillars overwinter in a cocoon beneath the bark and pupate in spring. The females emerge in May and lay eggs under rosettes of leaves. After petal-fall they hatch and grow to full size by late summer.

Summer tortrix-moth caterpillars overwinter in a cocoon beneath a bud scale or dead leaf, and start feeding again in the spring, initially on young fruit buds, blossom, and then the leaves. They pupate in mid-summer. The emerging moths lay eggs on leaves, which hatch into caterpillars and feed in late summer - these cause the most damage.

Fruit-tree tortrix caterpillars overwinter in a cocoon under bark and pupate in mid-summer. They lay eggs in green blobs beneath leaves. Some early developers

pupate in spring, giving rise to a second generation of caterpillars in early autumn. Both generations can damage fruit.

Q What damage do they cause?

A The feeding of all tortrix moths produces shallow depressions with dark margins in the fruit. Some bore deeper, but seldom as far as the core. By harvest, the wounds will have healed, leaving a corky or russeted covering, distorting growth around the damage. They are a problem in mid- to late summer.

Fruitlet-mining tortrix makes a shelter of webbing in clusters of apples. Summer fruit tortrix shelter in leaves held together by silken webbing near the tips of shoots. Fruit-tree tortrix caterpillars hide beneath silken shelters of leaves and fruit or in the eye of the apple, and can be hard to spot.

Q Can I spray against tortrix moths?

A Yes, if your trees are small. Treat with an insecticide approved for caterpillar control on fruit following the information on the packet for which trees they can be used on and how often you need to spray.

Q Are there any organic options?

A There are pheromone traps available - if more than 30 moths a week are caught, be ready to spray 10-14 days later.

Q Can I leave it to nature to take care of them?

A Usually, yes. There are many predators of these insects.

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