

## Box tree caterpillar

### Identification, Biology & Management

The box tree caterpillar (*Cydalima perspectalis*) is a defoliating pest of box (*Buxus*) plants (Figure 1). Although a native to East Asia, adult moths were first recorded in the UK in 2008. By 2011 larvae were reported in private gardens in the counties of Berkshire, Buckinghamshire, Essex, Hertfordshire, Kent, Surrey and Sussex. By the end of 2014 the moth had become established in parts of London and surrounding counties. Where caterpillars are found, severe defoliation of box plants occurs.

### Casual Agent

Adult moths lay pale yellow eggs on the underside of box leaves in late March. When these eggs hatch the greenish yellow caterpillars eat the leaves (Figure 2) and produce a webbing and trail of pellets. After defoliation the caterpillars becomes a pupae in a chrysalis before emerging as a white semi-transparent moth. Within the UK and Ireland the box tree caterpillar has 2-3 life cycles per growing season (Late March-October) with each life cycle lasting 6 to 8 weeks depending on temperature; 21-33°C being optimal. Box tree moths are relevant competent fliers, flying *ca.* 10km per year. Box plants can, however, survive being attacked as long as the larvae don't eat the bark of the main stems consequently fertilisation, mulching and irrigation will help plants recover from damage.

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Figure 1. Symptoms of box tree caterpillar damage.



Figure 2. Adult box tree caterpillar.

### Control

No natural enemies of box tree caterpillars exist within the UK and Ireland. Consequently, natural control measures based on bio-control are limited. In addition, box tree caterpillars contain a range of toxins in them that make them unpalatable to birds and mammals.

As pupae can survive temperatures as low as -30°C it is highly unlikely that naturally occurring winter temperatures in the UK and Ireland will influence box tree caterpillar populations once established.

Insecticides such as spray oil in combination with a synthetic pyrethroid offer the best form of control. They are mainly formulated as water based sprays and applied when leaf miners are present.

The insect growth regulator Dimlin Flo is also highly recommended due to its persistence on box foliage providing long term control. Dimlin Flo kills only moths and caterpillars, having no effect against beneficial insects. Application early in the growing season is recommended when adult box tree moths are observed.

*Bacillus thuringiensis* ssp. *kurstaki* (Trade name, Dipel) is a bio-control bacterium which produces an insect-specific endotoxin which perforates the box tree caterpillars' gut lining, leading to paralysis and death. *Bacillus* treatments must be repeated three times at an interval of about ten days, because they mainly kill young larvae with kill rates dropping as the larvae age.

Pheromone lure traps are available that attract adult males and therefore reduce the number of females that lay fertilized eggs. Pheromone traps should be in place from March to November.



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