

# Bruce Spanworm and Winter Moth

## TREE DOCTOR TIPS

### Bruce Spanworm (*Operophtera bruceata*) and Winter Moth (*Operophtera brumata*)

#### DESCRIPTION:

The winter moth (*Operophtera brumata*) and the Bruce spanworm (*Operophtera bruceata*) are caterpillars that defoliate trees and shrubs. Although they look similar, winter moth is an invasive species from Europe and the Bruce spanworm is a native species. Winter moth larvae are pale green with a thin, white stripe on each side of the body, whereas Bruce spanworm larvae are bright green with thin, yellowish stripes.

#### HOSTS:

Winter moth hosts include maples, birches, oaks, apples, blueberries, poplars and beeches, among others. Spanworm hosts include sugar maples, poplars, birches, cherries, elms, oaks, willows, snowbushes, serviceberries, witch hazels, and other trees and shrubs.

#### BIOLOGY AND SYMPTOMS:

Winter moth and Bruce spanworm eggs hatch around the time of bud break. Their larvae feed on buds, emerging leaves and flowers, causing plants to decline or even die. Flower bud loss on fruit crops can reduce harvests.

Both pupate in the soil or leaf litter. Adult moths of both pests emerge in late fall or early winter and can tolerate cold weather.

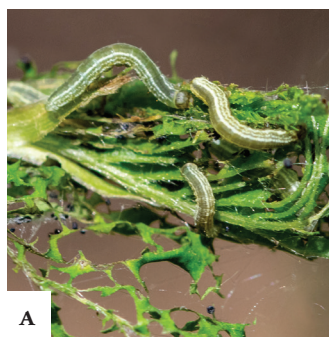
#### MANAGEMENT:

Several products can control winter moth caterpillars. These include Spinosad, a natural substance produced from a soil bacterium, and certain insecticides and insect

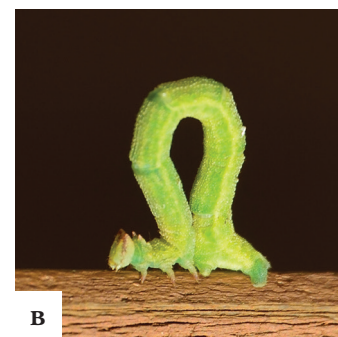
growth regulators. B.t.k. (*Bacillus thuringiensis kurstaki*) is a bacterial insecticide that selectively controls spanworms and other caterpillars (including butterfly larvae), but has no effect on other insects. Users must read, understand and follow all product directions to adhere to environmental regulations. Natural predation by wasp predators, small mammals and other organisms are among the few controls for winter moth pupae.

There are no controls for adult winter moths. Adult female winter moths cannot fly. Placing sticky bands around trees and shrubs may block winter moth caterpillars and adult female moths from climbing on them. However, some may climb under the bands and the bands must be replaced when they fill up.

Bruce spanworm outbreaks are usually lasting at most two to four years before predators, disease and parasites naturally reduce their numbers. As with winter moths, encircling trees with sticky bands may help prevent the caterpillars and wingless adult female moths from climbing into plants.



A



B

FIGURE A. WINTER MOTH LARVAE FEEDING ON LEAVES

FIGURE B. CLOSE-UP, BRUCE SPANWORM

The scientists at **The Davey Institute Research and Diagnostic Laboratories** support our arborists and technicians in diagnosing and prescribing based on the latest arboricultural science. For specific treatment and application details, your arborist may consult The Davey Institute's Plant Health Care Treatment Guide.

Scan the QR code to learn more about insects and diseases that may impact your property.

