

Pasture Pests:
Diamondback Moth 'Life Cycle'
Information Sheet

Identification

Scientific Name: *Plutella xylostella* Linnaeus

The **adult** moth is a small greyish insect with a wingspan of about 7mm. At rest the wings are folded close to the sides; the terminal edges, which almost touch, have a slightly upturned appearance. A narrow creamy-yellow stripe along the hind edge of the wing is bordered by black in a wavy, irregular fashion. With the wings folded the adjacent creamy-coloured stripes form a diamond-shaped pattern from which the moth derives its name.

Adults are nocturnal in habit, and the female lays up to 100 eggs, usually on the under surface of leaves.

The **eggs** are oval and cylindrical, light lemon-yellow, and have a crinkly, sculptured surface. They are laid singly, usually on the under-surface of the leaf.

On hatching the small (2mm long) **larvae** [caterpillars] are pale green with a dark head. There are five larval stages [instars]. Fully grown larvae are variable in colour, but mostly green, and are 7-9mm long. They are widest in the middle, tapering slightly towards each end. When fully grown, larvae construct a loose cocoon in which to pupate.

The **pupae** which are up to 7mm long, are light green, but gradually change to pale creamy-brown with darker-brown markings; some, however, are green with almost black markings. Pupae are enclosed in open network cocoons which are attached to the under-surface of leaves of their food plant, or on other vegetation, fence posts, etc.

Host Plants

The common host plants are the cruciferous crops cabbage, cauliflower, turnip, swede, kale, and chou moellier.

Damage

Larvae cause most damage by feeding on the leaves. Cabbage is the preferred host and most susceptible to attack. First instar larvae begin feeding by boring through the cuticle of the leaf and mining in the tissue beneath. These mines are conspicuous in the early stages and show up as white markings on the leaves. From the second instar, larvae feed on surface tissue on the under-surface, eating out patches which eventually become holes through the leaf. Heavy infestations leave little more than the leaf veins.

Distribution

Diamondback moth is almost cosmopolitan [distributed world-wide], but its occurrence anywhere is limited by the presence of suitable food plants, because it has a restricted food range. Climate has little effect on distribution. In New Zealand it is found throughout the country.

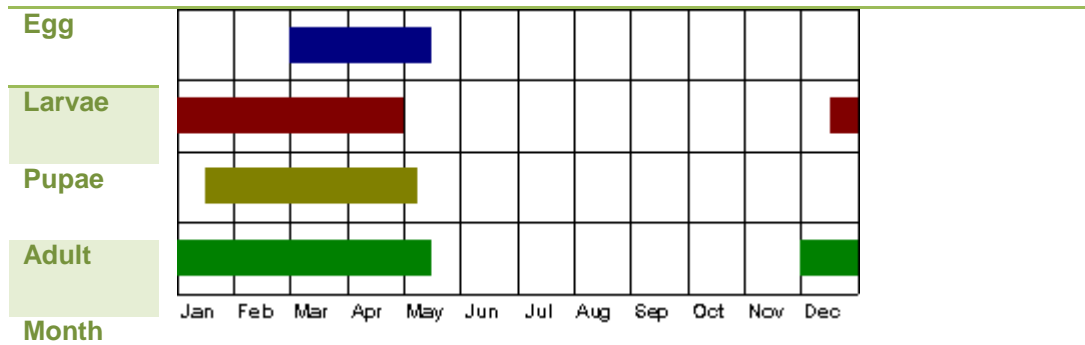


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Life cycle



Note: Coloured bars indicate periods of peak activity in each of the life cycle stages

Diamondback moth does not have a pupal resting stage during winter, so development continues throughout the year at a rate determined by the climate. From November to April generations are completed in 30-35 days, extending to more than 80 days during the colder period May to October. Larvae hatch after about 5 to 6 days, but up to 3 weeks in the colder months. The time spent as larvae is also greatly influenced by temperature, varying from 2-7 weeks. The adult emerges after a pupation of 10-24 days. There are at least six generations in a year, and in favourable conditions seven can be completed.

E. W. VALENTINE

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