Factsheet 04/12 (Project FV 192)

Field Vegetables

Silver Y moth in vining peas and green beans

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Silver Y moth is a frequent, although sporadic migrant pest of a wide range of horticultural and agricultural crops. The caterpillar of the silver Y moth feeds on foliage and pods and can cause a degree of defoliation when infestation levels are high. However, the main problem occurs when the caterpillar becomes a contaminant in vined peas, or when feeding damage to pods of fresh market peas or beans makes them unmarketable.

Description and life cycle

Adult moths are about 10-15mm in length, have a brownish grey hairy body and greyish coloured wings, with a distinctive silver coloured Y marking on each forewing (Figure 1). They can fly during the day or night and may be seen actively flying in crops during warm summer afternoons. They can often be found flying from plant to plant within the main foliage, and at rest are often seen with the wings folded back and rapidly 'shivering'.

Most moths migrate to the UK during late May and June, from Mediterranean countries or North Africa. Numbers are especially high following a period of southerly winds which coincide with the main emergence of moths, resulting in large populations being dispersed around southern and eastern coastal areas. The moths feed on nectar and lay eggs singly or in pairs on the foliage. The eggs are white, round, flattened and about 0.5mm in diameter. After 10–14 days, the eggs hatch and caterpillars begin feeding on the leaves. At first, the damage appears as small discrete craters on the leaf surface, but as the caterpillars grow over the following two weeks, the damage becomes more extensive to both leaves and pods (Figure 2).

1. Adult moths have a distinctive silver coloured Y on their wings

2. The caterpillar damage on the leaf

Caterpillars are bright green in colour varying in size up to 20-25 mm in length. There is a light coloured thin stripe along the sides of the caterpillars and they possess only two pairs of abdominal pro-legs and one pair of anal pro-legs, which allows them to move with a looping action (Figure 3). The caterpillar pupates in a shiny black chrysalis, contained by white webbing wrapped up in leaves or stems (Figure 4).

3. The silver Y caterpillar

4. When the caterpillar pupates, white webbing can be found wrapped up in leaves or stems

Damage

5. Contamination of harvested produce is the most problematic symptom of the silver Y caterpillar

Foliar damage may occur where there are large populations of migratory moths in the summer and subsequent caterpillar populations are high, and in severe cases, although uncommon, fields can be totally defoliated. The greatest risk to pea crops is contamination of the harvested produce by the caterpillar (Figure 5) or pea or bean pods can be damaged by direct feeding. When the later stages of larval development coincide with harvesting, the caterpillars become dislodged during vining and are harvested together with the peas. The caterpillars are difficult to remove by size or colour grading during the processing of frozen peas. Contamination, if detected during the pre-load inspection, results in load rejection and undetected contamination may result in customer complaints to the retailer.

Monitoring

6. A pheromone trap can be used for monitoring silver Y moth populations

Silver Y moth migration is sporadic and because of this, populations vary between years and it is difficult to predict numbers in any one season.

Following work funded by the Horticultural Development Company in 1997 (HDC FV 192) a monitoring system identifying the key risk of damage and contamination and the optimum time for applying control measures was developed.

In peas, a pheromone trap (Figure 6) is placed at crop height in the field in late May and moths, caught in the base, are counted on three occasions during each week of monitoring. A threshold is reached when a **cumulative** total of 50 moths has been reached by the time that the peas have reached the first pod stage (growth stage 204). The pheromone trap can be bought from Agralan Ltd.

Control

When the threshold has been reached, a single spray of a pyrethroid insecticide, approved for pea moth control, should be applied 10-14 days later. This application will control both large and small caterpillars and these will fall off the plants before the crop is harvested.

The same trap can be used in green beans or runner beans for monitoring populations although a threshold for treatment has not been formulated. However, where significant numbers of moths are caught regularly, crops should be inspected for caterpillars 7-14 days after first recording moths, and a spray applied where caterpillars can be found on crops which are about 7 days from harvesting.

Some pesticides for silver Y caterpillar control (May 2012)

Insecticides approved for pea moth control in peas will control silver Y moth caterpillars effectively. Products containing lambda cyhalothrin that have EAMUs (formerly SOLAs) for caterpillar control in green and runner beans are also effective for silver Y caterpillar control.

Vining or fresh market peas

Example Product	Active Ingredient	Harvest Interval
Alert	*alpha cypermethrin*	1 day
Curfew	*cypermethrin*	7 days
Decis	*deltamethrin*	none stated
Hallmark Zeon	*lambda cyhalothrin*	none stated
Dovetail*	*lambda cyhalothrin + pirimicarb* *	3 days
Pyrethrum 5 EC	*pyrethrins*	1 day none stated
Fury 10 EW	*zeta cypermethrin*	14 days

*Final use date 31 July 2012

Green and runner beans

Example Product	Active Ingredient	Harvest Interval
Hallmark Zeon	*lambda-cyhalothrin*	7 days
Pyrethrum 5EC	*pyrethrins*	1 day

Further information

HDC Publications

Pea and Bean Crop Walkers' Guide

HDC Reports

FV 192 Vining peas: monitoring and control of silver Y moth (*Autographa gamma*)

Pheromone Trap

The pheromone trap described in this factsheet is available from Agralan Ltd. For more information visit www.agralan-growers.co.uk or call 01285 860015.

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