

## Common Insect Pests of Cucurbits

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### INTRODUCTION

Cucurbits are a major horticultural crop in the Northern Territory (NT), and are susceptible to many insect pests. These include cucumber moths, pumpkin beetles, two-spotted mites and aphids. Other pests such as *Thrips palmi* (refer to Agnote I45: Control of the melon thrips *Thrips palmi*), and ginger ants (refer to Factsheet ENT-2: Ants in the Household and Backyard) may also cause problems. Further information on all pests and their control in cucurbits is available from the Entomology Section at Berrimah Farm.

Growers should recognise these pests and monitor their crops regularly for all of the species mentioned in this Agnote. Infestations will be easier to control if they are detected at an early stage. It is suggested that growers walk through their crops and monitor numbers of pests and beneficial insects at least twice a week. The Entomology Section can provide advice on developing monitoring and recording techniques. These techniques will assist growers in initiating management practices to reduce damage to their crops when required. Natural enemies can control some pests. If chemical sprays are required, “soft” chemicals, such as potassium soaps should be considered. The grower can also choose to spot-spray or to apply a complete cover spray as necessary.

Since cucurbits depend on bees for pollination, it is recommended that the use of insecticides be kept to a minimum during the flowering period.

### CUCUMBER MOTH (*Diaphania indica*)



Figure 1. Cucumber moth adult



Figure 2. Cucumber moth larva

### Description and Life Cycle

Adult moths have a wingspan of about 20–25 mm. The wings are white, with a dark brown band along the fringe. The adult moth lives for one to two weeks and during this time the female may lay many eggs on the underside of leaves and on the soft stems of host plants. The adults are usually active at night. The eggs are creamy white in colour and 1–2 mm long. They can take from one to seven days to hatch. The larvae are pale to dark green with a white stripe running along both sides of the body. They feed on leaves, soft stems and fruit, sometimes building a silken canopy for protection and under which to feed. Larvae grow to 15 mm long in about three weeks, at which time they are ready to pupate.

The immobile pupae are 10–15 mm long and are usually found in the soil, under fruit or debris on the ground, or sometimes in a silken canopy in the leaves. Pupation lasts up to two weeks before the adult moths emerge. The duration of each life stage can be affected by climatic conditions and the quality of the cucurbit crop.

The caterpillars feed on the leaves, soft stems and fruit of a variety of cucurbits, but the young succulent leaves are favoured. They can destroy large sections of plants and bind parts of the leaves together with silk and faeces. On occasion, the larvae have been known to damage the flowers. After the fruit starts to develop, the larvae can chew shallow holes in the surface, especially where the fruit is in close contact with the ground. They often pupate in these holes. This damage causes blemishes in the fruit, which downgrades the quality.

### Monitoring

Regular checks should be carried out on crops twice a week to detect larval populations. Monitoring should include examining the underside of the leaf surface, soft stems and fruit surfaces in contact with the ground.

## PUMPKIN BEETLE (*Aulacophora hilaris*) AND PLAIN PUMPKIN BEETLE (*A. abdominalis*)

### Description and Life Cycle

There are two types of pumpkin beetles which can cause damage to cucurbit crops. They are of similar size (6–7 mm) and colour (yellow/orange). The pumpkin beetle (*A. hilaris*) is distinguished by four large black spots on the back. The plain pumpkin beetle (*A. abdominalis*) does not have these black spots. The adults lay their eggs into the soil amongst the roots of the plants where, once hatched, the creamy white larvae will feed until they pupate and emerge as adults.



**Figure3.** A plain pumpkin beetle and pumpkin beetle adults on pumpkin flower

### Damage

Adult pumpkin beetles feed on the leaves of cucurbits, chewing large holes and often leaving only the veins of the leaves. Young seedlings are particularly susceptible to damage as small numbers of beetles can cause total defoliation and death. Mature plants can sustain a larger amount of damage before yields start to decline. Larval damage to the roots is usually minimal and the plants are rarely affected. Pumpkin beetles are usually found in aggregations within the crop on both young and old leaves.

### Monitoring

Seedlings should be checked twice a week and treated if pumpkin beetles are seen. Older plants should be monitored and treated if defoliation is severe.

## TWO-SPOTTED MITE (*Tetranychus urticae*)

### Description and Life Cycle

Two-spotted mites (TSM) are barely detectable with the naked eye. They are pale yellow in colour with two dark spots on the body. When colonies of TSM are in large numbers, they spin fine silky webs for protection from predators while they feed and shelter. They also move from leaf to leaf or from one plant to another. During unfavourable or cold weather conditions, they may change to an orange/red colour and are then commonly known as red spider mites. TSM eggs are small and round and are laid one at a time near veins on the under surface of leaves.



**Figure 4.** Two-spotted mite adult and egg

### Damage

TSM damage is more common during the hot dry weather associated with the NT dry season. The mites feed on the underside of the leaves by piercing and sucking the leaf surface. Damage is first noticed as pale or bronzed areas along the midrib and veins of the leaves. When infestations are severe, the leaves become mottled taking on a silvery-yellow appearance and can prematurely fall from the plant.

### Monitoring

The crop should be checked at least twice a week using a magnifying glass, especially on the under-surface of the leaf as mite damage or presence is not always noticeable on the top of the leaf.

## MELON APHID (*Aphis gossypii*)

### Description and Life Cycle

Melon aphids are small, soft-bodied insects, pale green to yellow in colour. The adults may be winged or wingless and the females are more numerous than the males. Female melon aphids can produce eggs or live young. These features and their short life cycle enable populations to build-up rapidly.



**Figure 5.** Melon aphids on an eggplant leaf

### Damage

Melon aphids usually feed on the underside of leaves but may attack the soft growing tips. They suck the juices from the leaves and tips, causing leaf and tip curl, distortion and premature death of the leaf or growing tip. Melon aphids leave a sticky substance called honeydew on the leaves and growing tips, which can promote the growth of sooty mould. Ants are sometimes seen when aphids are present as they tend the aphids and feed on the honeydew. Melon aphids usually aggregate and many may be found on just a few leaves. In severe cases, the crop may be destroyed. A more important aspect of the damage caused by melon aphids is that they may transmit damaging plant viruses.

### Monitoring

Melon aphids have the ability to increase in numbers at a rapid rate and this must be considered when monitoring for this pest. Plants should be checked at least twice a week with special attention given to the under surface of the leaves. Most problems occur towards the end of the growing season.

## TWENTYEIGHT- SPOTTED POTATO LADYBIRD (*Epilachna vigintioctopunctata*)

### Description and Life Cycle

Twentyeight-spotted potato ladybird adults are pale brown, orange or reddish in colour with 28 black spots (Size: 6-10 mm in length). The adult female lays yellow, oval shaped eggs in upright clusters on the underside of leaves. (Size: 2 mm in length). The larvae hatch from the eggs after three to four days and are creamy-yellow in colour with branched black or brown spines. The larvae take about 16-24 days before they pupate and emerge as adults. Adults can live for a few weeks.

### Damage

The adults and larvae feed by chewing on leaves; they will also feed on flowers and developing fruit. The adults feed on the top of the leaves while the larvae feed on the underside. The leaves become skeletonised leaving a network of veins that are joined together by a clear window. Heavy infestations may cause affected leaves to drop prematurely and the yield may be affected.

### Monitoring

Check the upper and lower leaf surfaces of the crop every few days to look for adults and larvae. Crop residues should be removed after harvest to reduce the chance of populations carrying over onto the next crop.



**Figure 6.** An adult Twentyeight-spotted potato ladybird on a cucurbit leaf



**Figure 7.** Twentyeight-spotted potato ladybird larva and eggs

For further information on cucurbit pests and their control, contact DPIF Entomology on (08) 8999 2258 or email: [insectinfo@nt.gov.au](mailto:insectinfo@nt.gov.au).

Please visit us at our website:

**[www.nt.gov.au/d](http://www.nt.gov.au/d)**

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