

Primefact

Oriental fruit moth

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Introduced to Australia at the beginning of the 20th century, the oriental fruit moth (OFM, *Grapholita molesta*) is primarily a pest of stone fruit.

Pest identification

Oriental fruit moths are small, grey-brown and approximately 5–7 mm long (Figure 1). Although rarely seen in the orchard during the day, they might be seen near the tree tops in the late afternoon when temperatures are above 18 °C. OFM eggs are cream, small, round, and approximately 0.7 mm in diameter. Larvae are creamy white and overwinter as pupae that can be found under the bark or in tree wounds, particularly around the lower tree trunk.



Figure 1. Adult oriental fruit moth. Photo: Eric LaGasa, Washington State Department of Agriculture, Bugwood.org.

Damage

Warm, moist conditions favourable for tree growth and brown rot are also favourable for OFM. Hot, dry, windy conditions can reduce heavy infestations in spring. Cold winters can reduce the carry-over population. During spring, the newly hatched larvae will burrow into the young shoot tips to feed for up to 4 weeks. This causes the young shoots to wilt and collapse. The second generation can attack shoots and green or ripening fruit. Peaches and nectarines can be damaged early in the season by larvae after they leave the shoots. Fruit damage is first noticeable as a gummy exudate that might include some sawdust-like frass.

Monitoring

Pheromone traps can indicate when moths are active and estimate population levels. However, they are not an effective monitoring tool where mating disruption is used as the pheromone cloud will interfere with the traps. In sprayed orchards, pheromone traps deployed early in the season (around bloom) will help determine a biofix date as the basis for calculating degree days and predicting first generation egg hatch. Regularly inspecting shoots and fruit will help identify the early stages of any OFM infestations. Look for dying shoot tips and/or gummy exudates on fruit.

Management

Cultural and physical: good orchard management will help with OFM control. Smooth-barked, calm, well-managed trees will generally only support lower populations of OFM, so reduce tree vigour where practical. Disinfect wooden storage bins before moths emerge in spring. Destroy large prunings and remove all fruit remaining after harvest from the tree. Any trees that have been bulldozed should be destroyed by chipping or burning so they are not a source of infestation in the following season.

Biological: mating disruption might replace the need for pesticide application for OFM and works best for orchards:

- that are isolated from other pome fruit or stone fruit orchards
- that are part of an area-wide management scheme
- where migration and internal sources of OFM can be controlled
- where OFM numbers are low but cause sufficient damage to warrant investment in mating disruption.

The native parasitic wasp *Glabridorsum stokesii* is a natural OFM predator. Avoiding insecticides should help encourage beneficial insects. Introducing the commercially available parasitic wasp *Trichogramma carverae* is another biological control option

Chemical: check the [APVMA PubCRIS database](https://portal.apvma.gov.au/pubcris) for registered controls (<https://portal.apvma.gov.au/pubcris>).

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