



Medfly life cycle and damage

Life cycle

The onset of Medfly activity depends on temperature. In the south-west of the State, Medfly is active in late spring, summer and autumn. In winter, it may become inactive in cold areas. Medfly can overwinter as adults, eggs and larvae (in fruit), or as pupae in the ground. Adult Medflies are active in winter when temperatures exceed 12°C.

As temperatures increase in spring, adults begin to emerge from the ground and overwintering flies become active. If control is not started at this time, Medfly populations will increase to cause problems later in the season. In the Perth metropolitan area, numbers peak in late December to early January. A life cycle takes 28-34 days to complete in summer, and 60-115 days in winter.

Adult

The adult fly is 3-5 mm long. The body is light brown, and the abdomen is encircled by two light coloured rings. The thorax (middle) has irregular patches of black and silver, giving it a mosaic appearance. The wings are mottled with distinct brown bands extending to the wing tips. The female Medfly has an ovipositor but the male does not. Adult Medflies may live for two to three months and are often found in foliage of fruit trees, especially citrus. As long as fruit is present, most Medflies do not move very far, generally not more than 50 metres.

Egg

Eggs are preferentially laid in soft-fleshed fruit such as apricots, peaches, plums and nectarines. However, when Medfly populations are high, females become less choosy and will infest less favoured hosts such as olives. Female Medfly may infest less preferred hosts if preferred hosts are not available, even when populations are low.

Once a suitable host is found, the ovipositor is used to make a hole (sting) in the fruit skin. Batches of up to 300 white, banana-shaped eggs are laid into this hole. Eggs are just visible to the naked eye and take 2-4 days to hatch in summer and 19-20 days in winter.

Larvae (maggots)

The eggs hatch into larvae in 2-4 days. The larvae are white with a flat, pointed head. This stage of the life cycle is most likely to be seen. When the larvae first hatch they are about 1 mm long, but quickly grow to 8 mm. The larvae feed on the flesh of the fruit, causing it to decompose. When fully grown, larvae stop feeding and jump from the fruit, burrowing into the soil to pupate. The larval stage takes about 14-16 days in summer, and 25-45 days in winter.



Pupae

Pupae resemble a small brown capsule or barrel about 4 mm long. Within the pupae the Medfly slowly develops into an adult. The adult fly cuts through the pupal case and burrows up through the soil. The pupal stage lasts 12-14 days in summer, and 25-50 in winter.

Damage

The first signs of fruit fly damage are usually stung or infested fruit. Stinging is caused by the female laying eggs into unripened or ripened fruit. Larvae may or may not develop from the eggs, depending when the eggs are laid and crop type. For example, egg laying damage can be caused in unripe apples, plums and peaches, but the eggs do not hatch.

Crop susceptibility to fruit fly damage

Medfly has been recorded as a pest of more than 200 host plants, world-wide. The table summarises the susceptibility of common crops.

High susceptibility

Apricot	Mango	Peach	Orange
Plum	Mandarin	Nectarine	Pear

Medium susceptibility

Apple	Mango	Peach	Orange
Pear	Mandarin	Nectarine	Pear
Cherry	Grapefruit	Quince	

Low

Lemon (Meyer only)	Lime	Olive	Grape
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Non-host

Tomato (unripe)	Strawberry	Capsicum	Eggplant
Pumpkin	Mulberry	Cucumber	Passionfruit
			(but may be stung)
Watermelon	Squash		

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