

Exotic Pest Alert: Solanum fruit fly

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Solanum fruit fly (*Bactrocera latifrons*) is an exotic plant pest **not present in Australia**

This insect is a serious threat to Australia's **vegetable and melon industries**

If found, promptly report it to the **Exotic Plant Pest Hotline 1800 084 881**

Solanum fruit fly

Solanum fruit fly (*Bactrocera latifrons*), also known as Malaysian fruit fly, is a species of fruit fly that doesn't occur in Australia. Overseas this fruit fly is a significant pest of melons and certain vegetable crops.

There are a number of fruit fly species already present in Australia. However, new species can affect different hosts and have major impacts on Australia's capacity to trade in international markets.

Description

Solanum fruit flies are similar in appearance to Queensland fruit flies.

Adults are about 8 mm long and are brown coloured with yellow markings (Figure 1).

Larvae are small, creamy white and can grow to 10 mm long.



Figure 1. Solanum fruit fly adult [approx. 8 mm]

Damage

Similar to other fruit fly species, damage by solanum fruit fly is caused by larvae feeding inside the fruit.

Feeding by fruit fly larvae causes the flesh to become soft and unpalatable. Attacked fruit can drop from the plant prematurely and rot.

Fruit containing fruit fly larvae is unmarketable. Infected fruit presents a significant risk to market access with many state and international markets regulating against the introduction of fruit fly species.

Lifecycle

Eggs are laid under the fruit skin and hatch within 2–3 days (Figure 2).

Larvae feed within the fruit for just over a week before emerging from the fruit and

dropping to the soil to pupate. The pupation period lasts around 10 days before the adult flies emerge. Females begin laying eggs 6-17 days after emerging and continue laying eggs for 6-117 days.

In favourable environments, this lifecycle can continuously occur to produce adults throughout the year.

Host range

Solanum fruit fly is a pest of fruit and vegetable species, mainly belonging to the plant families Solanaceae and, to a lesser extent, Cucurbitaceae.

Recorded commercial hosts include capsicum, chilli, tomato, eggplant, cucumber, gourd, watermelon and *Momordica* species (including bitter melon).

Solanaceous weeds, such as black nightshade, are also known to host solanum fruit flies.

[Liquido et al. \(1994\)](#) who showed that *B. latifrons* outcompeted *B. dorsalis*, *B. cucurbitae* and *Ceratitis capitata* in its Solanaceous hosts but not in its non-Solanaceous hosts.

Spread

Localised spread of fruit flies is mainly achieved through adult flight. No flight distance data is specifically given for solanum fruit fly, though many fruit fly species (*Bactrocera* spp.) have recorded flight distances of 50-100 km.



Figure 2. Solanum fruit fly female piercing fruit skin with her ovipositor to lay eggs within

Long distance transport of solanum fruit fly can occur with the transport of infected fruit, host plants and soil from infected areas.

Distribution

Solanum fruit fly originates from Asia, where its distribution is widespread. Established populations of solanum fruit fly have also been reported from Kenya, Tanzania and Hawaii.

Actions to minimise risk

Put in place biosecurity best practice actions to prevent entry, establishment and spread of pests and diseases:

- practice "Come clean, Go clean"
- ensure all staff and visitors are instructed in and adhere to your business management hygiene requirements
- source propagation material of a known high health status from reputable suppliers
- monitor your plants regularly
- keep records

Reporting

If you suspect solanum fruit fly:

Call the Exotic Plant Pest Hotline on
1800 084 881

Email clear photos with a brief
explanation and contact details
to biosecurity@dpi.nsw.gov.au

An **exotic plant pest** is a disease causing organism or an invertebrate not present in Australia and which threatens agricultural production, forestry or native and amenity plants.

Acknowledgements

Figure 1 courtesy of Morton Bassan
https://olivefly.site/Malaysian_Fruit_fly_Bactrocera_la_tifrons.html

Figure 2 courtesy of USDA-ARS

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