

## Fruit Fly information sheet

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Originally compiled by Jacky Cronin in 2009; last updated October 2014

**Common Name:** Queensland Fruit Fly

**Scientific Name for Queensland Fruit Fly:** *Bacterocera tryoni*

### Description of pest:

Queensland fruit fly is about 7mm long, a reddish brown colour with yellow markings. The adult fly is often hard to identify so the first sign of fruit fly infestation is the presence of maggots in fruit. The maggots are a white/grey colour with a tiny black spot on the head.

### Other relatives:

There are actually over 80 species of fruit fly in Australia. But the two main ones are the Queensland fruit fly and the Mediterranean fruit fly (Medfly). Luckily for us the Medfly is currently restricted to the south west of Western Australia. (It prefers drier regions).



### What does the pest effect:

“Fruit fly is responsible for more bad language from gardeners than any other pest” and that is certainly true in my household! The fruits most commonly attacked by these flies are figs, cherries, stone fruit, apples, pears, loquats (really bad, see below) guavas, feijoas, tomatoes and capsicums. To a lesser extent citrus, blueberries, avocados and grapes. Fruit may appear relatively untouched on the surface with maybe some small black prick marks. But as the maggots mature and eat more of the inside of the fruit it starts to rot. They also carry bacteria which cause the fruit to rot. When you cut open your fruit you will find brown rotten flesh crawling with the maggots.

### Breeding, and or life cycle of the Queensland fruit fly:

Queensland fruit fly can develop from eggs to adults in as little as two weeks in hot humid weather. It can also take as long as 2-3 months in cold weather. But most commonly it has roughly a five week life cycle. The female flies lay their eggs just below the surface of the skin of the fruit. The maggots hatch, and as above feed, on the fruit and cause it to drop to the ground. When the maggots are fully mature they leave the fruit and burrow into the soil, where they pupate. Adult flies are trapped on the ground for up to 24 hours while waiting for their wings to harden. The adult flies will overwinter in sheltered locations surviving on sugar secretions from leaves. Neglected thin skinned citrus varieties and loquat trees especially harbour fruit fly during the cooler months.

### Beneficial organisms:

Queensland fruit fly has several predators which attack different stages of its life cycle. *Braconid* wasps are egg parasites, ants and ground beetles feed on the maggots; spiders, dragonflies, robber flies eat the adult flies. Birds such as swallows and willy wagtails and chickens also feed on the adult flies. [2010 update: Phd Student, Jennifer Spinner has been conducting research into biological control with Braconid wasps. After contacting her as to whether we have these wasps in our area her statement was... “In my surveys in 2008-09, I did not find any parasitoids in Albury-Wodonga, despite one species, *Diachasmimorpha tryoni* being found there once before (although I do not know exactly where). So that probably means that I just didn’t look in the right place.”

### Scale of the problem:

Bloody HUGE! Why? ... Albury/Wodonga and surrounding areas have been officially deemed a Queensland fruit fly endemic region. Meaning the problem is established and likely to be around for the long term, and funding for programs to ‘prevent’ it is not available. Because of the lack of commercial fruit growers in the area both Vic and NSW DPI will not conduct bait spraying. (That ended in Albury in 2002-2003). They will not help householders other than providing a website and pamphlet information. Both the Albury and Wodonga councils will not conduct bait spraying as it is not within their charter and responsibility saying it is a state matter. (Sounds like buck passing to me!). Greater Hume Shire, on the other hand, has also said bait spraying and fruit fly control is not its responsibility, however because of ratepayer concern they have conducted information sessions across the shire and also helped with a host tree removal program.



## Control measures:

There is plenty you can do to control fruit fly and limit its damage to your crops. We think in the short term the householder will be totally responsible for all the control of this pest. So below are **some ways to control fruit fly**:

- ~ **Prune** your fruit trees to a manageable height, no more than 2m high. Another option is to espalier trees.
- ~ **Pick off** all but what you will need at the unripe stage of the fruit.
- ~ **Pick up any fallen fruit** regularly. (If this is not an option you need to consider removing your tree permanently.) Put the fruit in a plastic bag, preferably black, and seal. Leave in the sun for 3-7 days and then place in bin.
- ~ Place bought or homemade fly **traps** around your property. These will not trap the female fruit fly, only the males. But they do let you know the flies are around. (Research has shown that less than 1-2% of insects caught in a homemade trap are fruit fly. Female fruit fly are unwilling to enter traps.) New organic **Cera traps** are said to be a 'set and forget' solution, but we're reluctant to recommend these as your sole fruit fly effort, particularly for heavily infested areas. The recommendation is to install a trap on each fruit tree. If you are using these traps, we'd love to hear your comments.
- ~ Use a 'splash' bait to **attract and kill the female flies**. This is not an organic solution but it is a better choice than spraying your whole tree. Both Albury and Wodonga councils can supply you with a bait attractant called NATFLAV. Just go into your nearest Hume Building Society branch, hand over \$10 and they will give you a receipt. Take the receipt to your local council and they will give a container of NATFLAV and some instructions. This NATFLAV then need to be mixed with a pesticide, like Malathion which will kill the fruit fly. Local fruit fly association: <http://www.fightthefruitfly.org/>

**OR** you can purchase a ready mixed attractant and pesticide called 'eco-naturalure'. It contains a BFA [Biological Farmers Association] registered **organic** insecticide called spinosad (but it's still an insecticide, so a risk to the 'good' bugs too). <http://ecoorganicarden.com.au/products/pest-disease/eco-naturalure/>

*In the Albury/Wodonga area it is recommended that you bait spray from September to May – and for it to be effective, that involves renewing it every week plus after rain (!)*

- ~ If you have **chickens** let them roam under the fruit trees or use small demountable fences to pen them under trees temporarily.
- ~ Destroy host trees. **Fighting fruit fly has to be a community effort**. Remove and unwanted fruit trees, help your neighbours and inform the council of any wild or street trees, especially prunus trees. NB: It was recently discovered by students that Clivia sp. has been found to be a host for fruit fly! Remove spent flower head before fruit forms.
- ~ **The most effective organic solution for home gardeners is exclusion**. Commercially bought fruit exclusion bags are made of either waxed paper or cloth. The whole tree can also be protected using a light weight fabric such as mosquito netting, shade cloth or nylon flyscreen material. These may need to be supported by a framework. When covering fruit you may also like to thin the fruit out too. See below for suppliers. Many Seed Savers members have chosen this approach, with 100% success. It is some work to set up but it saves your harvest! Chat to us if you'd like to hear more about it.
- ~ OR last but not least, give up and **grow fruit fly resistant fruits**:
  - Avocado (avoid thin skinned varieties)
  - Blueberry (sometimes affected)
  - Grapes (sometimes affected)
  - Nuts (ok, not a fruit, but an alternative)
  - Passionfruit (sometimes affected)
  - Pomegranate (though Jacky had fruit fly in pomegranates in summer 2009, in Lavington!)
  - Bananas
  - Citrus (avoid thin skinned varieties)
  - Kiwifruit
  - Mulberry (sometimes affected)
  - Persimmon (avoid early varieties)

## Exclusion product suppliers:

**Green Harvest** has a great range of exclusion products, including bags and sleeves. [http://www.greenharvest.com.au/pestcontrol/fruit\\_fly\\_intro.html](http://www.greenharvest.com.au/pestcontrol/fruit_fly_intro.html)

**Netpro Protective Canopies** sell exclusion netting by the metre and in pre-cut pieces of various sizes. Phone 1800 501 337 or [netprocanopies.com.au](http://netprocanopies.com.au). They have an **ebay store** at <http://stores.ebay.com.au/Netpro-Protective-Canopies>. Their **Vege net** is lighter weight, while the **fruit fly net** is designed for commercial use and sturdier ... both have a UV rating for 5 years pro rata (ie longer if you don't have them exposed to the sun all year).

**Peards in Wodonga** now stock pre-cut packs of NetPro's vege net and **local distributor Lou Newman** can provide custom lengths, potentially cutting down the postage costs – call her on 0408 709 960, or email [piplou@bigpond.com](mailto:piplou@bigpond.com).

Another supplier of netting we've recently come across is **Commerical Net Makers**, phone 08 9434 6000 or online store: <http://www.commercialnetmakers.com.au/onlinestore.html> with similar prices.

Images and additional references:

[http://www.landlearn.net.au/print/fruitfly\\_factsheet.htm](http://www.landlearn.net.au/print/fruitfly_factsheet.htm) and <http://preventfruitfly.com.au/about-fruit-fly/damage/>