Mediterranean fruit-fly is one of the most serious and devastating horticultural pests worldwide, and costs tens of millions of dollars per year in W.A. alone. It is important that everyone with fruit trees does their utmost to control this pest. Nothing is worse than nurturing and caring for fruit trees over a number of months, only to have the crop destroyed at the end by fruit-fly attack. All the time spent pruning, thinning and spraying is wasted, not to mention the cost of water and fertilisers.

To make things worse, nearly every one of the fruits that we grow is susceptible to Medfly attack, including some that are commonly believed to be resistant. Even lemons are occasionally stung, particularly the newly ripening winter crop during a warm autumn, and ripe avocados if allowed to hang on the tree into the spring. A number of native and exotic ornamentals, such as Lily Pilly and Jelly Palm, are also responsible for perpetuating this cursed pest.

Of the fruits we grow, some are a lot more susceptible than others. The worst are the soft fruits that have a strong smell or a thin skin: guavas, persimmons and white-flesh nectarines are classic examples. Loquats seem to come and go very quickly, but they are a curse because they give fly a breeding bridge from the fly’s winter dormancy into spring and early summer.

While fruit fly activity slows down during winter, even stopping completely in colder areas, the relatively warmer climate in coastal areas does allow continued breeding. Lack of good control during this period effectively gives Medfly a breeding 'bridge' between the main summer crops.

A total myth needing dispelling is that fly lay their eggs in the flowers – totally wrong! They are attracted by the smell of fruit, so it can be as little as two weeks from ripening for early stonefruit up to three months for late-season fruits such as persimmons and apples.

MEDFLY CONTROL

Growing fruit is a commitment that should not be taken lightly, and Medfly control is a major part of this commitment. A control program can be divided into three areas: cover spraying, baiting and trapping, and orchard hygiene.

1. Cover spraying:

Applying at least one good cover spray is an absolute must for most fruits. Apart from winter ripening fruits, those that ripen in spring and early summer are less susceptible than late summer fruits only because there are less active fly on the prowl. As the weather warms up in November and December, so do Medfly numbers increase dramatically.

So an early maturing peach may only need one or two sprays, but a mid to late season nectarine may need at least two or three, and autumn crops such as guava could need four or five cover sprays.

There are three chemicals that are commonly used. Trichlorfon (eg Caterpillar & White Butterfly Spray) is the least toxic and has only a two day withholding period, but only lasts a week during summer. NB: This chemical may unfortunately be unavailable. (Some people may suggest Maldison, but I don't like it because it doesn't give a good period of control and it also is very damaging to beneficial and predator insects).

Fenthion (eg Lebaycid® or Yates Fruit-fly & Insect Killer®) gives up to two weeks cover in summer and can protect against unhatched eggs laid prior to spraying. It is not a fully systemic spray as is often claimed, but does penetrate the skin of the fruit. NB: This chemical has now been withdrawn from sale.

Dimethoate (eg Rogor®) is a fully systemic spray, which means it is taken in through the leaves and travels through the plant and thus the flesh of the fruit. NB: This chemical has understandably now been withdrawn from sale and is now illegal to use on food crops.

Remember to always read the label carefully, especially because some fruits can be severely damaged by using the wrong chemical.

See over/
2. Baiting and trapping:
The idea of baiting and trapping is to kill the flies before they can get to the fruit. Medfly has very poor vision but a highly refined sense of smell. They can travel up to a kilometre and a half before the smell of fruit gives them their target. So if we can fool them by putting out a sweet smelling decoy and kill them at that point, there are less flies around to sting fruit. A female Medfly lives for as long as three months and can lay up to 1000 eggs, so it is obvious that if we can kill them first, the effectiveness of cover sprays is greatly improved.

Baiting and trapping are different procedures but should be done in conjunction with each other.

**Baiting** is preparing a sticky solution that is splashed onto the leaves and will stay there, not run off. A chemical must be added to ensure the fly is killed. If the female feeds on a high protein diet she will lay more viable eggs, thus the fly problem is made worse. However, do not add too much chemical as the smell may turn the fly away. 5mls of either Trichlorfon or Maldison per litre of bait is sufficient.

**Trapping** is using a bottle containing a lure to trap the flies. Plastic soft drink containers are great, and the 1.25L size is ideal, though any size can be used. Traps are mainly effective for monitoring fly activity. For example, if you are unsure whether your winter citrus need to be cover sprayed, you can check if there are any active fly at the time.

The idea of a trap is that the fly enter and feed on the lure, then fly vertically towards the light. They soon run out of energy and fall back into the liquid and drown, but chemical can be added to make sure of their demise. If you don’t want to use chemicals in tour trap, hang a piece of flea collar in the top. The fly will land on it and be killed.

You can use the same lures for the traps as you use for baiting. A good method is to mix more sticky splash bait than you need for foliage baiting, then dilute what is left to top up your traps. Apple juice is terrific for this purpose.

3. Hygiene:
Picking up fallen fruit and treating and disposing of it properly is a critical part of Medfly control. Running poultry under the trees is great because they pick up the fly pupae, thus further breaking up the life cycle.

However, they can dig the soil up too much and damage precious feeder-roots, so use the smaller breeds and only leave them in for short periods.

Keeping trees pruned and manageable makes for bigger and better fruit that is also easier to spray. Thinning fruit out so no two are touching each other yields the same benefits. This is done when the fruitlets are between the size of a pea or a bean.

Following these steps will ensure you harvest a good crop. However, even the best orchards often have some losses to Medfly, so don’t be disheartened if you do too.

**Bagging & Netting:**
Most of us have become understandably concerned about directly spraying the food we eat, even with the so-called ‘soft’ or ‘natural’ options. Total exclusion is becoming more and more popular – you may loose a bit of colour & flavour from the shading effect, but that’s better than poisoning ourselves.

For some fruits, such as mangoes, guavas and persimmons, it may well be practical to cover individual fruits or clumps of fruits with insect proof covers. A cheap way is to buy jewlery bags over the internet – they don’t last that long but are cheap. A number of products are on the market. For some examples, go to:


For small fruits such as apricots, bagging individual fruits would be totally impractical You may even consider totally covering the trees with an insect proof netting such as ‘Mite Net’ or ‘fruit-fly exclusion netting’.

Total ‘tree bags’ premade from exclusion netting are now becoming available – you drape them over the tree and tie it off around the trunk. Tass 1 Nursery (www.tass1trees.com.au) is one outlet selling them.

If you have very big trees, covering may be too hard or impractical to do, so some spraying may be necessary. Or you could consider restructuring your trees, even into a trellis/espalier, to make this easier. In mid-late winter I am running workshops on how to do this – check my website every month for details.