A trap for young players...

The prevalence of the Queensland Fruit Fly (QFF) adversely impacts the consumption of fresh produce, returns from crop production and domestic and international trade in horticultural products.

The unruly insects also known as *Bactrocera tryoni* (Froggatt) cause significant damage to home gardens, feral and untended fruiting plants and commercial orchards.

Over the last 10 years QFF has extended its range from its normal coastal, sub-tropical habitat, and is now established in parts of Victoria. The Goulburn Murray Valley (GMV) Regional Fruit Fly Project is located in Victoria's Goulburn Valley region and recognises the importance of early intervention in the effective control of QFF.

GMV Regional Fruit Fly coordinator **Ross Abberfield** said restrictions in the types of chemicals approved for fruit fly control and the rapid rate in which populations expand made it essential to detect fruit fly early in order to control the pest and curb its spread.

"If deployed correctly, fruit fly traps, baits and exclusion barriers will reduce population build-up before QFF can wreak havoc on local production and spreads into neighbouring areas," Mr Abberfield said.

There are two main types of fruit fly traps commonly available for use; the pheromone traps and food-based traps.

Pheromone traps

Pheromone traps contain a synthetic parapheromone called 'cuelure' attracting only male fruit flies. They also contain an insecticide (usually malathion or DDVP), water or a sticky surface that ensures flies that fly into the trap do not fly out.

Karen Abberfield regularly checks the traps positioned on her block to monitor the presence of Queensland Fruit Fly.

Pheromone traps are most often used to monitor the presence of pest fruit flies and population build-up. They are often deployed all year around, with frequent re-charging (approximately every three months) required to keep them active. The purpose of the pheromone trap is to demonstrate when and where to start fruit fly control activities.

Maximising the effectiveness of pheromone traps

Pheromone traps generally attract male QFF in the morning through to midday, with very few QFF adults attracted to traps exposed to full sun.

Traps should be kept out of direct sunlight in summer as temperatures in trap interiors can rise to over 50°C. Extreme heat will impact the efficiency of lures and arrestants inside the trap and repel QFF.

Traps should be placed in the interior of the canopy or in the shade and care should be taken to ensure leaves or twigs do not touch the trap as these act as a bridge for ants to enter and eat the dead flies within. It is important to re-charge traps according to label instructions.

Food-based traps

Food-based traps contain a protein source to attract feeding adult flies and attract both male and female flies. Food-based traps also contain an insect arrestant: pesticide, water or a sticky surface.

During the warm season these traps attract mainly females as at this time of year females are actively mating and laying eggs and need protein feeds throughout the season. However, the ratio of females to males change as the weather cools down into winter and warms up after winter.

During this period males and females need protein to build up energy reserves and mature eggs and sperm, respectively.

Protein sources used in these traps vary considerably between homemade options and commercial ready-to-use products.

Traps with baits based on water may need to be emptied and re-filled with bait every week in the summer as the bait is susceptible to bacterial and fungal deterioration. When this happens, the bait become a stinking mess and is non-attractive to pest fruit flies.

Some commercial products may last longer between re-fills, depending on label instructions.

Food-based traps have a short attraction distance of about 20m. These traps compete with naturally occurring sources of protein that exist on the landscape such as wild bacteria, fungi and yeasts which are often present in the warmer months of the year.

It is for this reason that food-based traps are most effective in autumn, early spring and winter in areas where radiant heat from houses and buildings, compost heaps, animal shelters, heat sinks such as open ground and rocks create refuge areas for overwintering fruit flies.