

Olive Fruit Fly Control Strategies

Olive fruit fly (OLFF) continues to be a challenge to local olive growers who are trying to produce a quality crop of olives for table use or oil. The following article is aimed at assisting homeowners and commercial olive growers in controlling OLFF populations in individual olive trees or groves.

First the bad news: it is highly unlikely that populations of the destructive olive fruit fly will ever be completely eradicated in California. The good news is that commercial olive growers have learned and employed effective methods to manage this major pest and to produce outstanding table olives and oil, and now everyone can benefit from that knowledge and experience.

Native to eastern Africa, OLFF was first detected in California (Los Angeles County) in 1998 and in Napa County in 2001. Within a few years, it had spread throughout the state. In our climate, it is capable of producing three to four generations per year. Unfortunately the spread of this pest was not significantly controlled by native parasites or predators, and the introduction of non-native parasites has met with limited success. The lack of control measures performed in unattended ornamental trees and abandoned orchards also contributes to the problem.

Olive growers in Napa, Sonoma, and Solano counties have sustained significant crop losses during the 2013 and 2014 seasons due to high populations of olive fruit fly. After experiencing several years of relatively minor amounts of fruit damage, many growers and homeowners have contacted the Napa County Agricultural Commissioner's Office to report infestation levels as high as 90%, producing unusable, rotten table and oil olives.

OLFF does not affect the health of the olive tree – only the quality of the fruit. Nor does it impact other fruits and vegetables. The adult flies lay their eggs in maturing olives (typically when they reach about 10 mm in diameter), leaving visible “sting” marks on the fruit surface. The eggs develop into larvae which consume the pulp and allow the introduction of microorganisms that cause the rot.

Olive growing experts have proposed a couple of possible reasons to explain the recent local OLFF population explosion and fruit damage. First, the Bay Area experienced a relatively mild winter during 2012-13, and the fly, which usually overwinters in the pupal stage in the soil or in fruit stuck up in the tree, may not have been affected as much in the absence of sustained periods of freezing temperatures. Second, growers may have become complacent in recent years due to low damage levels, and applications of *GF-120 NF Naturalyte Fruit Fly Bait*, historically the most popular and effective pesticide registered for OLFF control, may not have been made early or often enough during the season – or not at all!

With *GF-120*, you should seriously consider making your first applications in the spring, when the rainy season is over and daytime temperatures start to warm up, to reduce the number of flies. As in the case of yellowjacket control, you should not expect to achieve much success if you wait until late in the growing season to combat a potentially overwhelming infestation. Applications should continue right up to harvest time; a post-harvest spray is also recommended where populations are unusually high – just to knock down the number of flies that may otherwise overwinter and emerge during the next season.

GF-120 is also more effective when techniques to minimize evaporation are employed: prepare the solution with a higher concentration of the bait to water (try a 1:3, *GF 120*:water, dilution); adjust your equipment to spray larger droplet sizes (4-6 mm); apply the product every 7-14 days; ensure that the “spot” spray applications penetrate to the inner foliage to reduce exposure to the sun; and use the

diluted solution within 24 hours. Refer to the main and supplemental labels for more specific instructions.

There are several other products labeled and registered for use on olives to control OLFF. *Surround* is a kaolin clay formulation that coats the fruit and makes it inhospitable for the fly to deposit its eggs inside; like *GF-120*, it is an organically certified product. *Danitol* and *Pyganic* are two additional conventional pesticide sprays available to growers as alternative treatments.

Trapping is a useful method to determine the presence and severity of an OLFF infestation; it is less effective than the sprays if successful control is the object, especially in larger orchards or where elevated populations exist. Available devices range from homemade “Olipe” traps (punctured plastic bottles partially filled with a water and torula yeast mixture in which the flies drown) to the commercially available *Magnet OL* “attract and kill” trap with its combination of food and pheromone lures and a pyrethroid insecticide.

On a positive note, periodic communications with local commercial growers and representatives from other olive producing counties throughout the state have revealed that growers who have been applying *GF-120* on a regular (ideally biweekly) schedule have experienced satisfactory control of OLFF. Some have also deployed the *Magnet OL* traps in conjunction with spraying *GF-120* to even greater effect.

Sanitation also plays a major role in reducing population numbers. After harvest, remove any fruit hanging on the trees and falling on the ground in order to minimize the number of OLFF that may overwinter in the soil and emerge as adult flies during the following spring. That task may be complicated by interference from understory ornamental plants and ground covers. Encourage fellow industry growers as well as nearby homeowners and businesses with fruiting ornamental trees to join in the fight against OLFF. Hopefully, growers who have abandoned their regular treatments and/or sanitation measures for OLFF control – perhaps due to the significant expense of the materials and labor, or the notion that it is no longer a significant pest – will resume these activities this season. If so, we should all enjoy more productive and economically beneficial harvests in the future.

Incidentally, if you are not interested in harvesting the fruit, and you want to avoid cleaning up the mess that fallen olives create every year, here are some suggestions. Consider spraying a product such as *Florel* or *Olive Stop* when flowering occurs (usually May) to inhibit the amount of fruit produced every year. A blast of water on the blossoms may also prove effective. If you are thinking about planting new olive trees for aesthetic reasons, consider investing in one of the fruitless varieties that are readily available to home and business owners.

Concerning all of the pesticides cited above, including the flowering inhibitors, remember to follow all label directions regarding application directions as well as health and safety concerns; the label is the law! You may want to consult with a licensed and registered Pesticide Control Advisor about your particular situation. Please contact the Napa County Agricultural Commissioner’s Office (707-253-4357) for more detailed information about OLFF identification, trapping, and treatments.