

## Research Update: Olive Fruit Fly Management

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While there is no relationship between fruit damage and the number of insects found in traps, surveying trap catches can evaluate treatment efficacy by comparing trap catches before and after treatment.

Surveying fruit for infestation can give some indication of the severity of an infestation. Looking for maggots infesting fruit that has fallen from trees in late winter and spring is useful as it will give some indication of overwintering olive fly densities. Adult fruit flies can be monitored with McPhail, Olipe or yellow sticky traps. Plastic McPhail traps have proven to be more effective than yellow sticky traps in catching larger numbers of olive fruit flies and catching them earlier in the season, but yellow sticky traps baited with a pheromone lure or ammonium bicarbonate are generally regarded as easier to use. Details on the use of these traps can be found in the UCIPM Pest Management Guidelines for Olives (<http://www.ipm.ucdavis.edu/PMG/r583301311.htm>)

For all trap types, place traps in fruiting trees by March 1 in warmer locations in the second tree row or further in to reduce dust accumulation in the traps. Hang the traps mid-canopy, in the shade (north side of the tree), and in an open area to avoid leaves blocking the trap. Record numbers of flies trapped weekly. The number of flies in the traps likely will decline during the course of a hot summer and increase as the weather cools in late summer.

If flies are captured in spring and the orchard has a history of damage, begin spinosad bait treatments at pit hardening or when fruit reach about 10 mm in length (the point when flies begin to sting fruit and larvae can develop). Preliminary research indicates that applications of spinosad bait (GF-120 Fruit Fly Bait) should begin when trap captures begin to increase in early summer (mid to late June in the Central Valley). Once initiated, continue to apply spinosad bait according to label directions to protect the crop until harvest.

If fly captures begin to increase on traps late summer, but few fly stings on fruit are found, continue treatments with spinosad and/or kaolin clay. If number of stung fruit are increasing or if greater than normal numbers of flies are being captured in traps, treat with fenpropathrin. Fenpropathrin is a pyrethroid. Early season or excessive use of fenpropathrin can lead to a treadmill effect that may increase mite or scale populations, thereby requiring additional treatment for control of these pests, so the routine use of fenpropathrin unless significant damage is anticipated should be avoided.

**Registered Insecticides****SPINOSAD** (GF-120 Fruit Fly Bait) Application rate: 10–20 fl oz/acre or 1–3 fl oz/tree

REI, 4 hours; PHI, 0 days IRAC MODE OF ACTION GROUP NUMBER: 5

COMMENTS: For the first or second application, apply when fly numbers are increasing. In very warm spring weather, the first application should start before June 1, but could be as early as March or April if fly catches are heavy. In table olives, apply weekly to every other row or every other week to every row from pit hardening (mid-June) until harvest (mid-Sept). Olives grown for oil production, which are harvested later than table olives, may require additional applications. Dilute one part of product with 1.5 to 4 parts of water (e.g., with 4 gal of product, use from 6–16 gal water for a total of 10–20 gal spray solution.) Ground application with large droplets (4–5 mm in diameter) will best resist evaporation.

**KAOLIN CLAY** (Surround)

Application rate: 12.5–50 lb

REI, 4 hours; PHI, 0 days

COMMENTS: Serves as a protectant for olive fruit. Leaves a white coating on the fruit. Apply two or three applications every 5-6 weeks starting at pit hardening to protect fruit from stings.

**FENPROPATHRIN** (Danitol) Application rate: 10.67 – 16 fl oz/acre REI, 24 hours; PHI, 7 days

COMMENTS: Use if fruit monitoring indicates that fly stings are increasing late summer, or if greater than normal fly captures are observed in traps, despite treatments with spinosad bait. Avoid treatments before late August or September as early season treatments may result in outbreaks of mites or scales. Do not exceed 42.67 fl oz/acre per season. <