



Olive News



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2009 Olive Day

Olive Fly Trapping Program

Effect of Environment on Olive Fly Populations

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 Farm Advisor

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UCCE Sacramento Valley Olive Day April 7, 2009

Arts and Crafts Building - Glenn County Fairgrounds

Co-Sponsored by Musco Family Olives, Bell-Carter Olives and UCCE, Glenn, Tehama and Butte Counties

- 7:30 a.m. **Registration**
- 8:00 **Ag. Commissioner Update**
Jean Miller, Glenn County Ag. Commissioner's Office
- 8:25 **Update on Olive Insect Pests Including Olive Fly**
Marshall Johnson, UC Entomologist, Kearney Ag. Center
- 8:55 **Pest Control Districts and Local Olive Fly Trapping Results**
Bill Krueger, UCCE Glenn County
Ed Romano, Glenn County Pest Management District Representative, Tehama County Pest Management District
- 9:15 **California Olive Committee Activities**
Christi Darling, COC Manager
- 9:40 **Break**
- 10:00 **Mechanical Harvest Update**
Louise Ferguson, UC Olive Specialist
- 10:30 **Table Olive Production Costs**
Karen Klonsky, UC Department of Ag. Economics
- 11:00 **Irrigation of Olives, What Can be Done if Water is Short?**
Joe Connell, UCCE Butte County
- 11:30 **Steps for Controlling Alternate Bearing**
Bill Krueger, UCCE Glenn County
- 12:00 **Lunch**
Courtesy of Musco Family Olives and Bell-Carter Olives

Continuing education credit has been applied for and will be granted if approved.

Effect of Environment on Olive Fly Populations

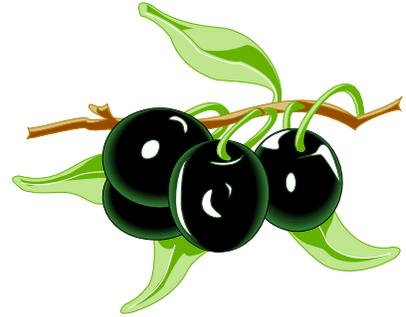
This information was excerpted from a larger article, Don't Be Fooled by the Olive Fruit Fly, by Marshall Johnson et.al., which appeared in the October 2008 issue of the CAPCA Advisor.

In the Central Valley, olive fruit fly trap counts typically decrease in July and August as summer temperatures rise. For most insects, smaller trap counts indicate a decrease in the size of the local insect population, however, this may not always be the case with olive fruit fly. Research conducted in Israel demonstrated the influence of temperatures on adult olive fruit fly. Below 62°F, adults were inactive and did not fly until the temperature surpassed about 74°F. Normal activity occurred within the range of 74 to 84°F. When temperatures rose above 84°F, females stopped laying eggs. Most activity stopped when temperatures surpassed 95°F, and the flies would seek out a moisture source. We have video-taped this last behavior as temperatures increased from 85 to 100°F with a temperature-controlled cabinet. Flies are usually inactive in the dark. This information suggests that during the spring period when temperatures are moderate (i.e., 65 – 85°F), adult olive fruit flies are active while the sun is shining, and inactive at night. However, in mid to late summer, it may be assumed that adult olive fruit fly activity is compressed to the time period from sunrise to mid-morning when temperatures increase to ca. 95°F. If this is true, monitoring trap catches in some regions may only be reflecting reduced fly activity and not high fly mortality (or fly dispersal from an orchard) as some may assume. Based on our laboratory data, we do know that single-day temperature highs (e.g., greater than 100°F) do not dramatically impact adult flies. However, several consecutive days of 100°F does increase adult mortality, and this becomes even greater (>95%) if the fly cannot obtain adequate water and food (e.g., honeydew). Those flies that can obtain plenty of food and water usually survive in high numbers unless temperatures reach 105°F and above. Access to honeydew produced by scale insects such as the black scale, *Saissetia oleae*, aid the olive fruit fly in surviving periods of high temperatures if water can also be found.

Many growers are aware that adult olive fruit fly numbers decrease during July and August. Some choose to halt weekly sprays of GF-120. Safely making this choice requires a thorough knowledge and understanding of several parameters including the trap catches of olive fruit fly in one's orchard, the availability of water and honeydew (e.g., black scale) within and near the orchard, the presence of nearby untreated olive trees (i.e., abandoned olive orchards, ornamental olive trees), and the presence of non-host plants that may provide relief from the heat for the fly. Geographical location of olive orchards also influences temperatures in orchards. Those orchards in the San Joaquin Valley tend to have longer periods of consecutive days of high temperatures in July and August compared to the Sacramento Valley. Coastal areas tend to be cooler than the Central Valley. Growers need to be aware of unusually cool weather during July and August that will increase olive fruit fly activity. To help growers better understand historical temperature patterns within California, GIS maps are provided at the website "Interactive Climate Maps for Olive Fly Management Decisions" (<http://arcims.gis.ucd.ac.edu/CIMIS/>). Maps illustrating the frequency of high temperatures (greater than 100°F over a 3 day period) for each day in July through September are available along with access to the high temperatures for the most recent 5 days (based on CIMIS sites). To protect olive fruit from the olive fruit fly, growers must be aware of when temperatures drop in the latter part of August and flies become active again and a true threat to their olive crop.

Olive Day 2009 Program Enclosed

Please phone (865-1105) or e-mail (jesamons@ucdavis.edu) your reservation for the complimentary lunch before April 3 so that we may accommodate all guests.



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