For more information, contact:
www.extento.hawaii.edu/fruitfly

Roger Vergas / Eric Jang
United States Dept. of Agriculture
Agricultural Research Service
P.O. Box 4459
Hilo, Hawaii 96720
(808) 956-4329 / (808) 956-4340
E-mail: rvergas@locarno.ars.usda.gov
ejang@poacar.ars.usda.gov

Ronald Mau
University of Hawaii at Manoa
College of Tropical Agriculture and Human Resources
Dept. of Plant and Environmental Protection Sciences
3050 Maile Way, Gjimore 611
Honolulu, HI 96822
(808) 956-7063
E-mail: mraur@caahr.hawaii.edu

Lyle Wong
Hawaii Department of Agriculture
Division of Plant Industry
P.O. Box 321-59
Honolulu, HI 96823
(808) 973-9569
E-mail: lwong@p.shtml

HAW-FLYPM
Hawaii Area-Wide Fruit Fly Integrated Pest Management

Population Monitoring
Baseline Trapping
Grid Trapping
Host Mapping and Infestation Monitoring

Suppression Techniques
Field Sanitation
Male Annihilation
Pest Bait Applications
Biological Controls

Components of the HAW-FLYPM

Baseline Trapping: Male lures and food-based attractants are used to monitor fluctuations in populations of the four species of economic importance in and around agricultural cropping areas throughout the state.

Grid Trapping: Kamuela (Big Island), Kula (Maui), and central Oahu were identified as areas of preliminary trapping sites. Male lures are used to identify the fruit fly population within the grid.

Host Mapping and Infestation Monitoring: Wild and cultivated host plants of fruit flies will be identified and mapped using GPS/GIS. Samples of host material within the grid will be collected and held to evaluate relative infestation levels throughout the grid area.

Economically Important Fruit Flies

Melon Fly
Hosts: squash, cucumber, melon, tomato, pumpkin, gourd, papaya, and eggplant.

Oriental Fruit Fly
Hosts: guava, mango, papaya, cherimoya, breadfruit, loquat, peppers, tomato, citrus, star apple, nectarine, and persimmon.

Mediterranean Fruit Fly
Hosts: apple, nectarine, loquat, citrus, coffee, guava, eggplant, peppers, tomato, papaya, cherimoya, mango, persimmon, mountain apple, and poha.

Solanaceous Fruit Fly
Hosts: peppers, tomato, eggplant, poa, cucumber, pomegranate, tomato cherry, popolo, Sodom apple, and turkey berry.

Frone Run Suppression Tactics

Field Sanitation: Removing infested fruit from the field by placing damaged or rotten fruit in bins, barrels, plastic bags, deep pits, or under a mesh material can reduce fruit fly populations.

Male Annihilation: Mass-trapping with male lures such as methyl eugenol or cue lure with an approved killing agent is used within the grid to provide "area-wide" suppression. Attractants can be applied in traps on fiberglass blocks or in a gel formulation and maintain their effectiveness for up to several months.

Protein Bait Applications: Attractant-based protein bait sprays utilizing environmentally safe toxicants will be used at low volumes in growing areas and border crops to further reduce fruit fly populations in economically important crops.

Biological Controls: Male-only sterile fly releases and augmentative releases of natural enemies (parasites) provide another method for maintaining fruit fly populations at or below economically acceptable threshold levels. Biological controls work best in balanced agro ecosystems, which the HAW-FLYPM program will promote.