



Fruit Fly Areawide Pest Management Program

Economic and Ecological Impact: In Hawaii, fruit flies limit development of a diversified fruit and vegetable industry, require export fruits to undergo expensive quarantine treatments, and provide a reservoir for pest introduction into the mainland United States. Hawaii has four species that have become established, three of which (Medfly, melon fly, oriental fruit fly) are considered major pests of agriculture worldwide. When these pests are introduced into the U.S. mainland, they often require large-scale eradication programs, often at great public expense. In California, where the total value of the fruit and vegetable industry has been estimated to be more than \$14 billion annually, the California Department of Food and Agriculture has estimated that an established infestation of Mediterranean fruit fly would cost from \$855 million to \$1.4 billion during the first year of establishment.

Significant Accomplishments: The ARS partnership Hawaiian fruit fly area-wide pest management project implemented by ARS has resulted in the first successful program to control fruit flies that have been devastating Hawaiian agriculture for almost 100 years (Fig 1.). The control system is based on a combination of techniques, developed primarily by ARS, which have been adapted and coordinated into an IPM initiative specifically designed to work in Hawaii's environment. The target fruit flies--melon, Oriental, Mediterranean (Fig 2), and Malaysian-attack more than 400 different fruits and vegetables. A hallmark of the program has been a network of partnerships involving ARS, the Hawaii Department of Agriculture, the University of Hawaii Cooperative Extension Service and local communities, with the support of APHIS and other research, regulatory and government agencies. The 285 signed cooperating growers in this program, representing 6,200 acres, across four islands so far--Oahu, Hawaii, Molokai, and Maui--have already been able to cut conventional pesticide use by 75-90 percent, and reduced fruit fly infestation from 30-40 percent to less than 5 percent. Small farms are now growing crops they had previously abandoned due to fruit fly damage.

Fig 1. Hawaii's unique and diverse ecosystems are being protected by an areawide pest management program for controlling fruit flies. One component of the program uses lures and traps to monitor for the presence of the pest.



Fig 2. Mediterranean fruit fly, *Ceratitis capitata*.

Future: Full implementation of the program will be extended into FY 2005 and 2006, an additional 2-years beyond the normal five-year time frame for the areawide pest management programs. The impact of the program is expanding in Hawaii and throughout the Pacific Basin (e.g., French Polynesia, Fiji, Vanuatu, Guam, and the Northern Mariana Islands).

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