



CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

**OFFICIAL NOTICE
FOR THE CITIES OF GARDEN GROVE, ORANGE
AND SANTA ANA**

PLEASE READ IMMEDIATELY

**PROCLAMATION OF AN ERADICATION PROJECT AGAINST THE
GUAVA FRUIT FLY**

The guava fruit fly (GFF), a serious exotic insect pest, was detected in the city of Garden Grove, Orange County, on July 7 and 9, 2009. The GFF is not known to occur in California. This pest attacks over 250 different hosts, many of which are grown in Orange County. Emergency eradication action is needed to protect California from the negative economic and environmental impacts the establishment of this pest would cause.

The California Department of Food and Agriculture's eradication protocol is based on an Action Plan developed in consultation with the Pest Prevention Committee of the California Agricultural Commissioner's and Sealers Association, United States Department of Agriculture and expert scientists on a science advisory panel.

The standard treatment technique for the GFF is the spot application (bait station) of a mixture of methyl eugenol, naled and minugel (a thickening agent) to tree trunks, utility poles and other similar structures within a 1.5 mile radius of all GFF find sites. This application is called the male attractant technique. The male GFF is attracted to the bait station and are eradicated before they can mate with female GFF. This disrupts the breeding cycle and the population is eliminated.

In Garden Grove, two male GFF were detected within one life cycle of the fly. This is a strong indication that a breeding population exists in the area. If other life stages of the GFF are detected, the foliage of all host trees and plants within a 200-meter radius of the find site will be treated with protein bait sprays. The protein bait spray consists of an organic formulation of spinosad and nulture protein bait. Affected properties will be notified in writing at least 24 hours prior to treatment. Following the treatment, completion notices are left with the homeowners detailing precautions to take and post-harvest intervals applicable to any fruit on the property. Treatments will be repeated every seven days for one life cycle.

Larval survey may occur up to 200-meters around any property where GFF are trapped to determine if larval stages are present. If GFF larvae are present, fruit will be removed from host trees 100-meters around the find sites and taken for disposal under regulatory compliance.

Enclosed is the Proclamation of an Eradication Project, the work plan, host list and a map of the eradication area. This eradication project will continue for three life cycles past the date of the last GFF trapped. If no additional GFF are detected, the GFF will be declared eradicated.

PROCLAMATION OF AN ERADICATION PROJECT
REGARDING THE GUAVA FRUIT FLY

On July 7 and 9, 2009, two male guava fruit flies (GFF) were trapped in the city of Garden Grove, Orange County. Based on the evidence presented to me by my staff, outside experts familiar with the fly, and the trapping data, I have determined that an established infestation of guava fruit fly exists.

The guava fruit fly, *Bactrocera* (= *Dacus*) *correcta* (Bezzi), is an exotic insect which is widely distributed in Southern Asia occurring from Pakistan eastward through India to Thailand. In India, this fly is a serious pest of a variety of tree fruits. Important California crops which would be infested include stone and pome fruits, especially peaches and various types of citrus. Damage occurs when the female lays eggs in the fruit. These eggs hatch into larvae, or maggots, which tunnel through the flesh of the fruit, making it unfit for consumption. The first Western Hemisphere infestation of this pest was detected in Garden Grove, Orange County, California in 1986, and was successfully eradicated. Since that time, several infestations have been delimited and successfully eradicated.

As Undersecretary of the California Department of Food and Agriculture (CDFA), I have decided, based upon the possible environmental and economic damage which could be inflicted by an established infestation of the guava fruit fly, that under my statutory authority, it is incumbent on me to attempt to eradicate the guava fruit fly and its life stages from California.

This decision to proceed with an eradication program is based upon a realistic evaluation that it may be possible to eradicate the guava fruit fly using currently available technology in the same manner as has been successfully used to eliminate previous infestations.

My duty to act and this decision is based upon authority set forth in Section 3591.13 of Title 3 of the California Code of Regulations, Sections 403, 5001 et seq., and especially 5761-5763 of the Food and Agricultural Code.

Following is a listing of the options that I have considered for eradication of this guava fruit fly infestation: 1) male attraction technique using bait stations; 2) supplemental ground spray; 3) soil drenches; and 4) mass trapping. There are also control options that I have considered; they are biological control and host removal.

Based upon input from outside experts familiar with the fly and my professional staff, I am ordering that male attractant treatments consisting of methyl eugenol, naled, and a thickener be applied to the eradication area to eliminate this infestation. A description of the options chosen is contained in the attached work plan. In issuing this decision, I have considered pesticidal and non-pesticidal options. I find that non-pesticidal options do not exist to effectively eradicate or control the guava fruit fly. I have determined that these actions are necessary to prevent or mitigate an emergency under the California Environmental Quality Act (CEQA) [Public Resources Code Section 21080 (b) (4)]. Emergency actions are exempt from CEQA. Consequently, I have determined that it is not necessary to prepare environmental documents for these emergency actions.

Notwithstanding the above and without waiving that provision of law, as a matter of policy in order to afford maximum protection to the environment and to allow all interested parties to participate, the CDFA has prepared and certified a Final Environmental Impact Report (FEIR) entitled "The Exotic Fruit Fly Eradication Program Utilizing Male Annihilation and Allied Methods," although these actions are exempt from CEQA as stated above. This FEIR addresses the eradication of exotic fruit fly pests at the program level and provides guidance for the conduct of future emergency actions against these pests. It identifies feasible alternatives and feasible mitigation measures to be implemented in individual exotic fruit fly pest eradication emergencies. I have, to the extent feasible, incorporated the mitigation measures recommended. In accordance with Section 21105 of the Public Resources Code, this FEIR has been filed with the appropriate local planning agency of all affected cities and counties. I find no local condition which would justify or necessitate preparation of a site-specific plan.

Eradication Plan

The eradication area includes those portions of Orange County which fall within an approximate 10 square mile area around each property on which an adult fly has been trapped or on which another life stage of the insect is found to be present. A map of the find site with eradication boundaries and the proposed eradication work plan are attached. In summary form, the work plan will contain the following elements:

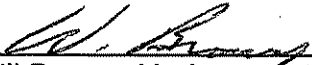
- a. Delimitation. Two types of traps will be placed throughout the project area to delimit the infestation and to monitor post-treatment fly populations. Jackson traps and McPhail traps will each be placed at a density of 25 per square mile in the core areas, and Jackson traps at five per square mile in the remaining delimitation area. Additional traps may be added to further delimit the infestation and to determine the efficacy of treatments. Both trap types will be serviced on a regular schedule for a period equal to three fly generations beyond the date of the last fly find.
- b. Treatment. Any finds within the original and/or expanded eradication area(s) will be treated according to the following protocol. The male attractant technique will be the primary eradication tool. A minimum of 600 evenly spaced bait stations of naled/methyl eugenol mixture will be applied to utility poles, street trees, etc., in each square mile within the eradication project boundaries. Based on the guava fruit fly treatment protocol (nine square miles around each find site), a total of 10 square miles will be treated. Treatments will be repeated at two-week intervals for up to two life cycles beyond the last fly find (as determined by a life-cycle model driven by accumulated day degrees, minimum of four applications). If larvae or mated females are found on a property, the foliage of host plants on the infested and adjacent properties will be treated with protein bait sprays. Foliar sprays may be extended up to a 200-meter radius if trap catches warrant it. Fruit stripping will also occur 100-meters around all known larval infested and adjacent properties.

Sensitive Areas

The eradication zone has been examined and no threatened or endangered species have been found within the eradication zone. The CDFA will not apply pesticides to undeveloped areas of native vegetation; all foliar treatments will be applied to residential properties and within urban developments.

Public Notification

Public information concerning the guava fruit fly project will consist of press releases to the general public. Press releases are prepared by the Orange County Agricultural Commissioner's Office in close coordination with the Department of Food and Agriculture. Either the county agricultural commissioner or the public information officer then serves as the primary contact to the media. Any resident whose property will be treated following the determination of a breeding population on or near their property will be notified in writing prior to treatment.



Will Brown, Undersecretary

7/10/09

Date

If you have specific questions related to this program, please contact John Hooper, Program Supervisor at (916) 654-1211.

Attachments

GUAVA FRUIT FLY ERADICATION PROJECT WORK PLAN

DETECTION

1. Detection Trapping

The Department maintains a cooperative state/county trapping program for the various fruit flies to provide early detection of any infestation in the state. Traps are serviced by county personnel funded by the Department. The program uses two types of traps: the cardboard Jackson trap baited with methyl eugenol, a male attractant and the McPhail trap, an invaginated glass flask baited with yeast in water, a food attractant for both sexes of the fly. Traps are hung from branches of host trees at specified densities in susceptible areas of California. County or state employees inspect these traps weekly or bi-weekly throughout the year in Southern California and from May through November in Northern California.

2. Intensive Trapping

Intensive trapping is triggered after a single fly is caught. Following confirmation of the specimen, trap densities will be increased over an 81-square-mile area (nine mi. x nine mi.). Within the next 24 hours, 25 Jackson and McPhail traps each are placed in the core square mile around each find. Five Jackson traps and five McPhail traps are placed in each mile of the remaining delimitation area. Traps in the core will be checked daily during the first week. Traps in the first buffer zone will be serviced every two days; those in the remainder of the delimitation area at least once during the first week. All traps in the delimitation zone will be checked weekly following a week of negative trap catches. Intensive trapping ends after the third complete life cycle following the last fly find. This time period is determined by a temperature-dependent developmental model run by Pest Detection/Emergency Projects Branch personnel in Sacramento.

3. Post-Treatment Monitoring

The success of the eradication program is monitored by intensive trapping levels for three life cycles of the fly after the last fly has been detected. If no flies are caught during that time, trap densities return to detection levels.

4. Fruit Cutting

Fruit on a property where a fly has been trapped will be inspected for possible larval infestation. Small circular oviposition scars are occasionally visible, indicating an infested fruit. Fruit on properties adjacent to a trap catch may also be inspected.

If two or more flies are trapped in proximity, fruit cutting may be extended to all properties within a 200-meter radius of the finds, concentrating on preferred hosts. Favored larval hosts are citrus and peaches.

TREATMENT

1. Male Attractant

The male attractant technique makes use of small amounts of attractant (methyl eugenol), and pesticide (naled) to lure the male flies in a population to bait stations. The flies are killed when they feed at the stations. The naled/lure mixture is applied to utility poles, street trees, and other unpainted surfaces (such as fences) using pressurized tree-marking guns. The current project boundaries will be nine square miles around the sites where the adult flies were trapped. Project boundaries may be enlarged if the number of flies trapped warrants it. Application is made to at least 600 evenly distributed sites in each square mile. Treatment is repeated every two weeks and continues for up to two fly life cycles beyond the date of the last fly find, or for a minimum of four applications.

2. Foliar Sprays

If larvae are found on a property, the foliage of all hosts on the infested and adjacent properties will be treated within 24 hours with spinosad bait sprays using hydraulic spray or hand spray equipment. If the trap catches warrant it, foliar sprays may be extended up to a 200-meter radius around an infested property. Affected properties will be notified in writing at least 24 hours prior to treatment. Following treatment, completion notices are left with the homeowners detailing precautions to take and post-harvest intervals applicable to any fruit on the property. Treatments are repeated at seven- to 10-day intervals.

3. Host Removal

If larvae are found, host removal (fruit stripping) may be used in conjunction with other elements of this program.

PUBLIC INFORMATION

Public information concerning the guava fruit fly project will consist of press releases to the general public, and direct notification of project developments to concerned local and state political representatives and authorities. Press releases are prepared by the Department's information officer and/or the county agricultural commissioner, in close coordination with the project leader responsible for treatment. Either the county agricultural commissioner or the public information officer then serves as the primary contact to the media. Because treatments are applied primarily to street trees and utility poles, further notification of the residents will be through the news media. Any resident whose property will be treated with foliar sprays following the discovery of infested fruit on or near their property will be notified in writing prior to treatment.

PEST PROFILE

Common Name: Guava Fruit Fly

Scientific Name: *Bactrocera correcta* (Bezzi)

Order and Family: Diptera, Tephritidae

Description: *Bactrocera correcta* is a brightly colored black and yellow fly approximately six millimeters (mm) in length. The wings are clear with a very light yellow-brown streak along the front edge to about 3/4 length, followed by a light brown spot at the tip. The top of the body of both sexes has the thorax mostly black with yellow marks towards the sides, while the abdomen is mostly yellow-orange with a black T-shaped mark in the middle. The face has two black spots that "bleed" towards each other, sometimes connecting to each other in the middle. Immature stages of *B. correcta* have not been described in the literature.

History and Economic Importance: This fruit fly is strongly attracted to methyl eugenol and is detected in Jackson traps baited with methyl eugenol. *Bactrocera correcta* has the potential to become a major pest of citrus, peach and several kinds of tropical and subtropical fruit hosts.

Distribution: *Bactrocera correcta* occurs in India, Pakistan, Nepal, Sri Lanka, Thailand, Myanmar and Southern China.

Life Cycle: There is no developmental information on *Bactrocera correcta*, but it is probably similar to *Bactrocera zonata*. *Bactrocera correcta* lives in the company of *Bactrocera zonata* and *Bactrocera tuberculata*, feeding on the same fruits.

Hosts and Damage: Recorded hosts include *Citrus* spp., *Coffea canephora*, *Eugenia uniflora*, mango, peach, guava, castor bean, castor-oil-plant, roseapple, jujube, Chinese date, fig, and sapodilla. Hosts of *Bactrocera zonata* must be considered potential hosts for *Bactrocera correcta*.

PARTIAL HOST LIST

Common Name

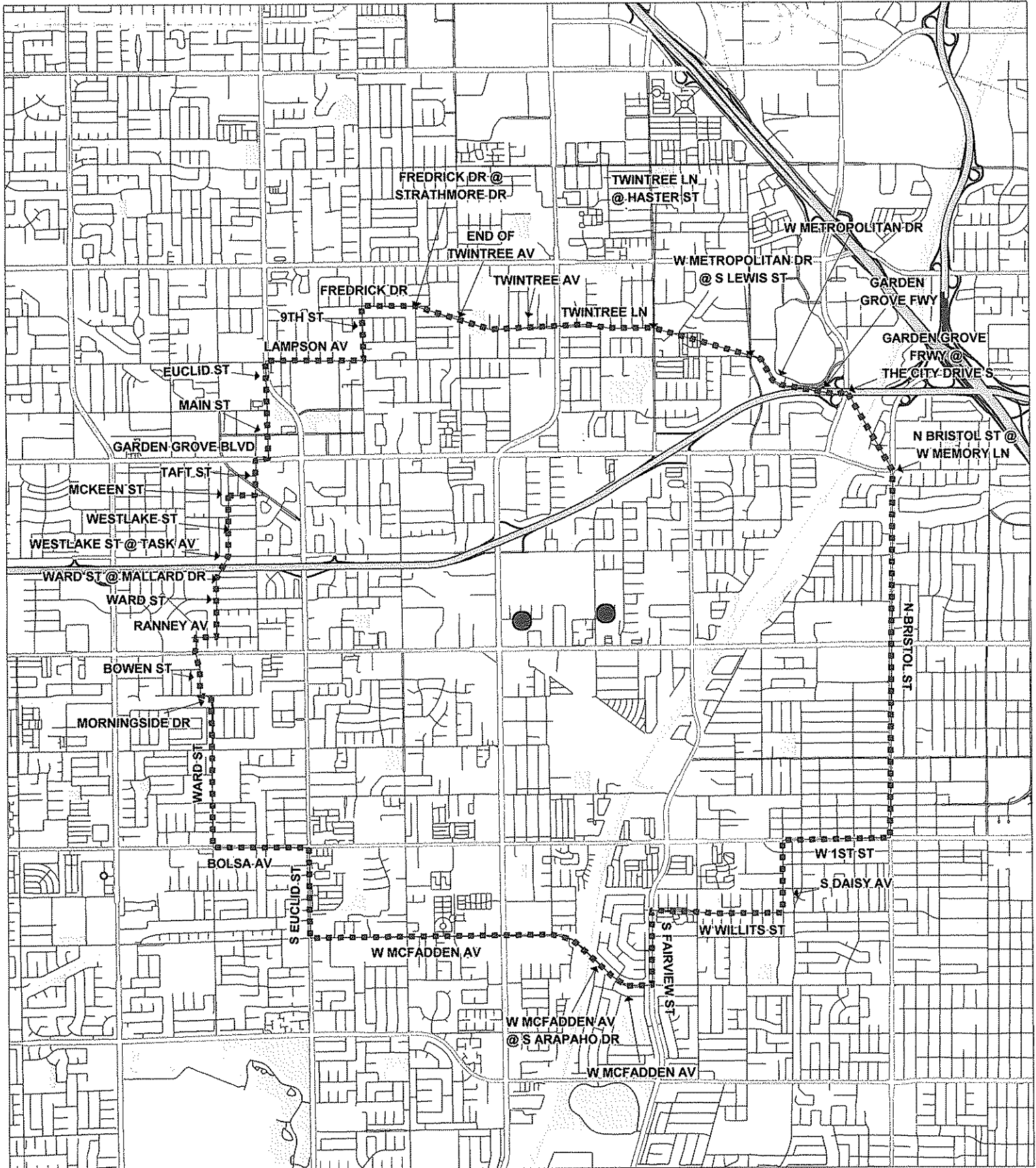
Apple
Date palm
Fig
Guava

Okra
Orange, sweet
Papaya
Peach
Pomegranate
Quince
Sapodilla
Sapodilla, chiku
Surinam cherry
Tomato
Tropical almond

Scientific Name

Malus sylvestris
Phoenix dactylifera
Ficus carica
Psidium guajava
P. littorale
P. cattleianum
Abelmoschus esculentus
Citrus sinensis
Carica papaya
Prunus persica
Punica granatum
Cydonia oblonga
Manilkara zapota
Achras zapota
Eugenia uniflora
Lycopersicon esculentum
Terminalia catappa
Terminalia chebula

GUAVA FRUIT FLY
GARDEN GROVE, ORANGE COUNTY
2009



FIND SITE



ERADICATION BOUNDARY