

What to Expect when you are in an Invasive Fruit Fly Quarantine

Invasive Fruit Flies

The California Department of Food and Agriculture (CDFA) handles a variety of invasive fruit flies such as Oriental fruit fly (*Bactrocera dorsalis* group), tau fly (*Zeugodacus tau* group), Queensland fruit fly (*Bactrocera tryoni*), Mexican fruit fly (*Anastrepha ludens*) and Mediterranean fruit fly (*Ceratitis capitata*) to name a few. Invasive fruit flies are extraordinarily damaging pests that pose an imminent threat to fruits and vegetables grown in California. They can feed on over 400 agricultural commodities that are produced in California, both commercially and in home gardens. These crops include citrus, grapes, figs, tomatoes, avocados, cucurbits, persimmon, walnut, stone fruits, and pome crops to name a few. Damage is done when female invasive fruit flies deposit eggs beneath the skin of fruits and vegetables. The eggs hatch into maggots, which tunnel through the fruit and render it unfit for human consumption.

Invasive fruit flies are insects originating in Asia, Central or South America, Africa, or the Mediterranean region, and have been accidentally introduced into a number of other places, including Hawaii. California has had active programs to exclude invasive fruit flies since the 1890's, and the first detections of invasive fruit flies in the state did not occur until the 1950's. Numerous introductions have been delimited and successfully eradicated. In recent years, with climate change and increases in international travel and eCommerce CDFA has seen an increased number of invasive fruit fly detections.

As a resident in the community where an invasive fruit fly quarantine is established you can expect to see CDFA, United States Department of Agriculture (USDA), your local County Department of Agriculture staff (County) and contractors placing and servicing Invasive fruit fly traps, surveying for larvae in host fruit and vegetables and conducting an eradication program that consists of insecticidal bait treatments, sterile insect technique, male attractant technique and removal of host fruit and vegetables.

Due to the serious nature of invasive fruit fly infestations, you can expect these activities to be ongoing for months to years. Your cooperation with the program will help to protect your home garden, your neighbor's fruit and vegetable plants and those of your entire community.

The CDFA, Division of Plant Health and Pest Prevention Services has authority under the Food and Agricultural Code and the California Code of Regulations to inspect, treat for and eradicate invasive fruit flies. Activities associated with an invasive fruit fly quarantine are mandatory.

All activities associated with this project are offered free of charge to residents in the project area. CDFA staff or others associated with the program will never ask for money for any activities being conducted.

Activities that CDFA may conduct on your property:

TRAPPING AND SURVEY

1. Detection Trapping

The CDFA maintains a cooperative State/County trapping program for various fruit flies to provide early detection of any infestation in the State.

- Traps are placed by either County staff, CDFA staff or contractors and funded by the Department.
- The program uses two types of invasive fruit fly detection traps:
 - The cardboard Jackson sticky trap baited with an attractant depending on the invasive fruit fly being detected by the trap, these can include cuelure, methyl eugenol or trimedlure. Cuelure and/or methyl eugenol are mixed with a pesticide. In some areas DDVP strips are being used as they can last longer in the field.
 - The Jackson trap is strongly attractive to males invasive fruit flies.
 - The McPhail trap, an invaginated glass flask baited with Torula yeast or an equivalent and borax in water.
 - The McPhail trap is attractive to both male and female invasive fruit flies.
- Traps are hung from branches of host trees at specified densities in susceptible areas of California.
- County or CDFA employees inspect these traps weekly or bi-weekly throughout the year in southern California and from April or May through October or November in northern California.
- A hold notice will be issued to the property owner where an invasive fruit fly adult or larvae have been detected.
 - It will restrict the movement of any fruit fly host fruit or vegetables from the property.



Jackson Trap



McPhail Trap

2. Intensive Trapping (Non-Sterile Insect Technique Area)

Intensive trapping is triggered after a single invasive fruit fly is trapped in a detection trap.

- Following confirmation of an invasive fruit fly, trap densities are increased over an 81-square mile area centered on the detection.
- Within 24 hours of a confirmed invasive fruit fly detection, additional Jackson and McPhail traps are placed.
 - Jackson traps are placed at a density of 25-50 traps in the square mile core around each detection site,
 - McPhail traps are placed at a density of 25 traps in the square mile core around each detection site.
- In the remaining four one-mile deep buffers, Jackson traps are placed at a minimum density of 5 traps.
- 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 are checked 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 the Pest Detection/Emergency Projects Branch in Sacramento.

3. Intensive Trapping in a Mediterranean Fruit Fly Sterile Insect Technique Area

Outside of a sterile release area:

- In the core square mile, 100 ChamP™ traps, baited with three trimedlure plugs each, and 25 Multilure® traps are placed.
 - These Multilure® traps are in addition to the normal complement of detection McPhail traps already in place.
- In each of the surrounding eight square miles, 50ChamP™ traps are placed.

- In the remaining three one-mile deep buffers, Jackson traps are placed at densities of 25, 20, and 10 traps per square mile respectively, going outward.



Within a sterile release area:

- Multilure® traps baited with three-component lure are placed over a nine-square mile area around each detection site at a density of 20 per square mile in the core and first buffer, to form a 20-20 array.
- The McPhail traps deployed for general fruit fly detection are maintained at normal detection levels in the delimitation area.
- Existing trimedlure Jackson traps in this nine-square mile area are removed.
- Five Medfly Jackson traps are maintained in each square mile of the remaining delimitation area.
- 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 the Pest Detection/Emergency Projects Branch in Sacramento.

4. Intensive Trapping in a Mexican Fruit Fly Sterile Insect Technique Area
Outside of a sterile release area:

- In the core square mile, 80 McPhail traps are placed.
- In each of the surrounding eight square miles, 40 McPhail traps are placed.
- In the remaining three one-mile deep buffers, McPhail traps are placed at a density of five traps per square mile.

Within a sterile release area:

- In the core square mile, the McPhail traps are reduced to ten per square mile, and those in the first buffer are reduced to five.
- In the remaining square miles, five McPhail traps are maintained per square mile.

- At the cessation of the sterile insect technique project, trap density in the core and first buffer are increased to an 80-40 array.
- 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 the Pest Detection/Emergency Projects Branch in Sacramento.



ChamP Trap Medfly



Multilure Trap

5. Post-Treatment Monitoring



Trapper Servicing Trap

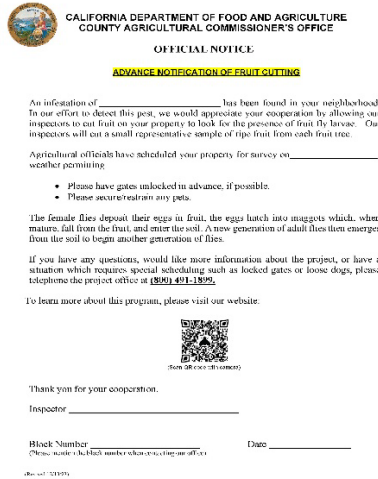
The success of the eradication program is monitored by intensive trapping levels for three life cycles of the fly after the last fly has been detected. If no flies are caught during that time, trap densities return to detection levels.

6. Larval Survey

Fruit may be picked and cut open to look for larvae (maggots).

- Fruit on a property where a fly has been trapped may 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 close to each other, fruit cutting may be extended to all properties within a 200-meter radius of the finds, concentrating on preferred hosts.
- A CDFA Advance Notification of Fruit Cutting will be provided to the resident or left at the residence at least 48 hours in advance the scheduled fruit cutting date.



- Residents do not have to be present for the fruit cutting.
- If not present, the resident is asked to leave gates unlocked and to secure pets on the date indicated on the treatment notice.
- Notice will be provided in English and Spanish.

- Surveyor will make contact with the property owner to request access to the yard.
 - Surveyors may work alone or in pairs.
 - Surveyor will **never** ask to enter your home.
 - Surveyor will be identified by a CDFA issued identification badge and/or a uniform shirt that clearly identifies the surveyor with a patch or with the words “Department of Agriculture” or “State Agriculture.”
 - If the property owner is not home, the surveyor will return at a later time to initiate contact.
 - If invasive fruit fly host plants are in the front yard and unfenced, the surveyor may conduct the survey of the trees which are accessible.
- A hold notice will be issued to the property owner where an invasive fruit fly larvae is detected.
 - It will restrict the movement of any fruit fly host fruit or vegetables from the property.



CDFA surveyors conducting larval survey.

INVASIVE FRUIT FLY ERADICATION TREATMENT

Female invasive fruit flies lay eggs singly or in groups under the skin of host fruits, and a single female can lay more than 1,000 eggs in her lifetime. The amount of time it takes for egg development depends on the temperature in the environment. Larvae (maggots) tunnel through the fruit feeding on the pulp, shed their skins twice, and emerge through exit holes in typically 10-14 days. The larvae drop from the fruit and burrow two to three centimeters into the soil to pupate. Adults emerge from the soil in 1-52 weeks. The newly emerged adults typically need 1-6 weeks to mature prior to egg-laying. For many invasive fruit flies, breeding is continuous, with several annual generations. Adults live an average of 3-12 months, feeding on honeydew, decaying fruit, plant nectar, bird dung, and other sources of protein. The adults are strong flyers, typically flying up to 1000 meters in search of food and egg laying sites. This ability to fly long distances allows the fly to infest new areas very rapidly. Additionally, invasive fruit flies can spread great distances quickly when infested fruit or soil is moved, or by hitchhiking as adults in vehicles.

The treatment protocol consists of foliar Spinosad bait spray, host fruit removal and depending on the specie of invasive fruit fly, male attractant technique and/or sterile insect technique.




1. Organic Foliar Spray

If evidence that a breeding invasive fruit fly population exists on a property, which would include, larvae (maggots), a mated female, or multiple adults, then foliar treatments will occur.

- CDFA staff and staff from treatment contractors in conjunction with CDFA oversight will conduct treatments. The foliage of host trees, ornamental

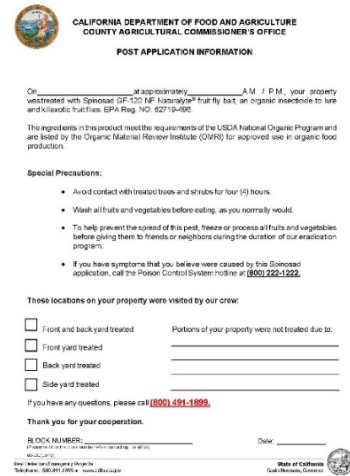
trees and shrubs within 200 meters of each detection site will be spot treated with an organic formulation of spinosad bait spray (GF-120 NF Naturalyte® Fruit Fly Bait).

- This will occur using backpack hand sprayer.
- A CDFA Advance Notification of Organic Insecticide Treatment will be provided to the resident or left at the residence at least 48 hours in advance the scheduled treatment date.

 <p>CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE COUNTY AGRICULTURAL COMMISSIONER'S OFFICE OFFICIAL NOTICE</p> <p>ADVANCE NOTIFICATION OF ORGANIC INSECTICIDE TREATMENT</p> <p>An infestation of _____ has been found in your immediate neighborhood. In order to effectively eradicate this pest, it will be necessary to apply the organic insecticide Spinosad GF-120 NF Naturalyte® fruit fly bait to trees and shrubs on your property. This insecticide is mixed with water to attract and kill flies feeding on it.</p> <p>Your property has been scheduled for treatment on _____, weather permitting. Unfavorable weather conditions such as rain or wind will cause the treatment to be rescheduled. You will receive a notice before each additional treatment (a minimum of 6 treatments will be performed at seven-day intervals).</p> <p>You do not need to be present during the treatment so long as our crew has access to your property, including the backyard. The treatment takes only a few minutes, provided you have made a few simple preparations prior to our arrival. What you can do to help:</p> <ol style="list-style-type: none"> 1. Please have gates unlocked in advance, if possible. 2. Please secure any pets and protect their food and water dishes, put them temporarily indoors if possible. 3. Please remove any laundry you may have left outside to dry. 4. Please close your doors and windows during treatment. You may re-open them once treatment is completed. 5. Please move any barbecues, lawn furniture, toys, and other miscellaneous items away from your trees and shrubs. <ul style="list-style-type: none"> • Please wait until the product has dried before entering the treated area (approximately four hours). • The treatment is free of charge. • Please avoid spreading this pest; do not move backyard fruit off your property. • If you have symptoms that you believe were caused by this Spinosad application, call the Poison Control System hotline at (800) 222-1222. • To learn more about this program, please visit our website: <div style="display: flex; justify-content: space-around;"> <div data-bbox="516 968 581 1045"> <p>Maps and Info:</p>  </div> <div data-bbox="646 968 711 1045"> <p>Treatment Video:</p>  </div> </div> <p><small>Scan QR code with camera</small></p> <p>If you have any questions or a situation that requires special consideration such as pet birds, fishponds, locked gates or dogs, please telephone the project office at (800) 491-1889. Thank you for your cooperation.</p> <p>BLOCK NUMBER: _____ Date: _____</p> <p><small>Printed under the authority of the County Agricultural Commissioner's Office</small></p>	<ul style="list-style-type: none"> • CDFA staff will work with the resident to address special concerns and will schedule appointments for treatment dates and times if requested. • Residents do not have to be present for the treatment. • If not present, the resident is asked to leave gates unlocked and to secure pets on the date indicated on the treatment notice. • Notice will be provided in English and Spanish.
---	---

- On the day of treatment:
 - CDFA staff will knock on the residence door when arriving.
 - CDFA staff will identify suitable ornamental trees and shrubs and invasive fruit fly hosts for treatment.
 - Host trees and ornamental trees and shrubs will receive a few bait station sprays of the spinosad bait spray.
 - Adult invasive fruit flies will be attracted to the bait, feed and die.
- Following treatment, completion notices are left with the homeowners detailing precautions to take and post-harvest intervals applicable to any fruit on the property.

- CDFA will leave a post treatment notice once they have completed the application.
- This will include information about the treatment and directions about safe consumption of residential fruit.
- Notice will be provided in English and Spanish.



**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
COUNTY AGRICULTURAL COMMISSIONER'S OFFICE
POST APPLICATION INFORMATION**

On _____ at approximately _____ A.M. / P.M., your property was treated with Spinosad (DF-121) (R) Insecticide/Fruit fly bait, an organic insecticide to use and kill toxic fruit flies. EPA Reg. NO. 62719-400.

The ingredients in this product meet the requirements of the USDA National Organic Program and are listed by the Organic Material Review Institute (OMRI) for approved use in organic food production.

Special Precautions:

- Avoid contact with treated trees and shrubs for four (4) hours.
- Wash all fruits and vegetables before eating, as you normally would.
- To help prevent the spread of this pest, freeze or process all fruits and vegetables before giving them to friends or neighbors during the duration of our eradication program.
- If you have symptoms that you believe were caused by this Spinosad application, call the Poison Control System hotline at (800) 222-1222.

These locations on your property were visited by our crew:

Front and back yard treated Portions of your property were not treated due to: _____

Front yard treated _____

Back yard treated _____

Side yard treated _____

If you have any questions, please call (800) 491-1899.

Thank you for your cooperation.

BLOCK NUMBER: _____ Date: _____
 Parcel ID: _____
 State of California
 Division of Agriculture

- Treatments may be repeated at seven to 14 day intervals for one life cycle of the fly (typically two to three months, dependent on temperature).




CDFA staff conducting Spinosad bait spray spot treatments.

2. Host Fruit Removal

If evidence that a breeding invasive fruit fly population exists on a property, which would include, larvae (maggots), a mated female, or multiple adults, then host removal (fruit stripping) may occur.

- CDFA may use staff from the California Conservation Corp or professional pickers in conjunction with CDFA oversight to conduct host fruit removal.
- All host fruit will be removed from all properties within a minimum of a 100-meter radius around the detection sites.

- In the event of a large infestation, fruit removal will be expanded to include a 0.5 mile radius around the detection sites.
- A CDFA Advance Notification of Mandatory Fruit Removal will be provided to the resident or left at the residence at least 48 hours prior to the scheduled host fruit removal. If for some reason your property needs to be rescheduled, a Fruit Removal Reschedule Notice will be left at the property.


CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
COUNTY AGRICULTURAL COMMISSIONER'S OFFICE
OFFICIAL NOTICE
ADVANCE NOTIFICATION OF MANDATORY FRUIT REMOVAL

An infestation of _____ has been found in your neighborhood. In our effort to eradicate this pest, agricultural officials must remove and destroy all the fruit from your property and surrounding neighborhood. By removing the fruit, we are eliminating fruit that is likely to be infested with fruit fly maggots.


The female flies lay their eggs in fruit, the eggs hatch into maggots which, when mature, fall from the fruit and enter the soil and later emerge from the soil as adult flies. The destruction of infested fruit is an effective means of eliminating fruit fly larvae (maggots) which, protected inside the fruit, are not affected by the chemical treatments and/or may be moved off of the property by landscapers or residents.

Our fruit removal crews, which consists of staff from the California Department of Food and Agriculture (CDFA) and the California Conservation Corps (CCC), are scheduled to be at your property on _____, weather permitting.

- ◆ You do not need to be present during the removal of your fruit, as long as our crew has access to your yard, and you have made arrangements for any pets which may interfere with the fruit removal activities.
- ◆ Please avoid spreading this pest; do not move backyard fruit from your property.

If you have any questions or if you have a situation which requires special scheduling, such as locked gates or dogs, please telephone the project office at **(800) 491-1899**.


To learn more about this program, please visit our website at:


(Scan QR code with camera)

Thank you for your cooperation.

BLOCK NUMBER _____ DATE _____

9/23/2020


CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
COUNTY AGRICULTURAL COMMISSIONER'S OFFICE
RESCHEDULE NOTICE

An infestation of _____ has been found in your neighborhood. In our effort to eradicate this pest, agricultural officials must remove and destroy all of the fruit from your property and surrounding neighborhood. By removing the fruit, we are eliminating fruit that is likely to be infested with fruit fly larvae.

Your property was scheduled for fruit removal today. We were unable to remove fruit as planned due to the reason(s) checked below:

Your gate was locked or a dog was present. On the rescheduled date, please unlock your gate and/or restrain your dog.

Rain and/or wind.

Other Reason _____

YOUR PROPERTY HAS BEEN RESCHEDULED FOR: _____

In order to stop the spread of _____ it is important that fruit from the known infested area be removed in a timely manner in order to stop the fruit fly from spreading.

If you need to make special arrangements for fruit removal, or if you have any questions or concerns, please call our office at **(800) 491-1899**.

Please visit our website to learn more about this pest:
<https://www.cdfa.ca.gov/olam/DEPTreatment/>

This fruit removal is free of charge. Thank you for your cooperation.

BLOCK NUMBER _____ DATE _____
Please provide the block number when contacting our office.

9/23/2020

- On the day of host fruit removal:
 - CDFA staff will knock on the residence door when arriving.
 - CDFA staff will identify invasive fruit fly hosts for the pickers.
 - Pickers begin work using hands and tools to pick all available fruit from trees and ground.
 - Host fruit is bagged and weighed; each bag will contain no more than 25 lbs. per bag.
 - Each bag will be double bagged and closed with duct tape.
 - The yard will be cleaned of debris including dropped fruit.



Host fruit removal



CA Conservation Corps bagging fruit

- A CDFA Post Notification of Fruit Removal will be provided to the resident or left at the residence.
 - The notification will tell you what parts of your property were visited by the fruit removal crew.
 - Notice will be provided in English and Spanish.



CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE
COUNTY AGRICULTURAL COMMISSIONER'S OFFICE

OFFICIAL NOTICE
POST NOTIFICATION OF FRUIT REMOVAL

On _____ at approximately _____ A.M./ P.M. fruit was removed from trees and plants on your property in our effort to eradicate the _____ The female flies lay their eggs in fruit, the eggs hatch into maggots which, when mature, fall from the fruit and enter the soil and later emerge from the soil as adult flies. The destruction of infested or potentially infested fruit is an effective means of eliminating fruit fly larvae (maggots) which, protected inside the fruit, are not affected by the chemical treatments.

These locations on your property were visited by our crew:

Front and back yard
 Front yard
 Back yard
 Side yard


If you have any questions, please call (800) 491-1889.
To learn more about this program, please visit our website at:
<https://www.cdffa.ca.gov/pan/POE/PostNotification/>

Thank you for your cooperation.

BLOCK NUMBER _____ DATE: _____
PROPERTY ADDRESS (STREET ADDRESS ONLY)

Tel: 916 865-1100 • www.cdffa.ca.gov 

- The fruit is taken to a landfill for burial using regulatory compliance protocols. Fruit removal will occur once at the beginning of the project but may be repeated if additional flies are detected.
- If the resident is unwilling to allow the removal of host fruit and vegetables. CDFA will use their authority to abate the nuisance and remove the host fruit.



August 25, 2015
Mr. and Mrs. Smith
850 Dolphin Drive
Los Angeles, CA 92804

Dear Mr. and Mrs. Smith:

In July, the Huanglongbing and Asian Citrus Psyllid Project (Project), a cooperative program between the California Department of Food and Agriculture and the Los Angeles County Agricultural Commissioner, found both a Huanglongbing and an Asian citrus psyllid infestation in your area. Huanglongbing is a devastating citrus plant disease, which is spread from tree to tree by the Asian citrus psyllid as it feeds. Citrus trees infected with Huanglongbing will stop producing edible fruit and eventually die. In order to protect citrus trees in your community, all properties must be surveyed, all Asian citrus psyllid host plants treated to eliminate potential breeding sites and all Huanglongbing infected citrus trees must be removed.

Your property is in the defined eradication area. As part of the Project, your property must be inspected for Asian citrus psyllid and Huanglongbing host plants and all Asian citrus psyllid host plants must be treated. We respectfully request your cooperation by allowing us access to your property in order to perform the necessary inspection and treatment just as most of your neighbors have already done. Without your cooperation, the disease may spread to neighboring communities.

If your property contains Asian citrus psyllid and Huanglongbing host material it is a public nuisance as defined in Food and Agricultural Code Section 5762. Therefore, your property is subject to inspection and abatement proceedings if we are not allowed to inspect for Asian citrus psyllid and Huanglongbing and treat all Asian citrus psyllid host plants on your property. Please contact the project at 800-491-1889 no later than **6:00 P.M. August 9, 2015** to schedule an inspection and treatment of all Asian Citrus Psyllid host plants on your property. If we do not hear from you by that date, we will initiate abatement proceedings. If you have any questions, please contact the Project personnel at the number above.

Sincerely,

Nick Condos
Director
Plant Health and Pest Prevention Services

cc: Los Angeles County Agricultural Commissioner
United States Department of Agriculture

- An abatement letter may also be issued to no contact properties.
- The abatement letter will give a contact number and a time and date to respond by.
- If the property owner makes contact, the program will work with them to schedule program activities.
- If the property owner does not respond to the program, a warrant will be issued, and the program activities will be conducted.

3. Male Attractant Technique with Methyl Eugenol

The male attractant technique will be used to eliminate all mature male methyl eugenol responding invasive fruit flies, like the Oriental fruit fly. The male attractant technique applies small bait stations using STATIC™ Spinosad ME, which is a pre-mixed solution containing the attractant methyl eugenol and an organically registered pesticide spinosad, mixed into a waxy time-release matrix (SPLAT®).

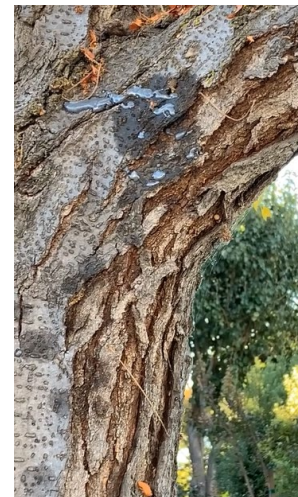
- The methyl eugenol lures male flies to the bait stations, where the flies ingest the insecticide as they feed.
 - The flies are killed when they feed at the stations.
- In each square mile within the eradication boundary, a targeted density of 300 evenly spaced five- to ten-milliliter bait stations are applied to utility poles, street trees, and other unpainted surfaces using pressurized tree marking guns mounted on specially modified trucks.
 - The bait stations are placed six to eight feet above the ground.
 - Applications are repeated every two weeks for one life cycle if no quarantine is triggered (typically two to three months), and for two life cycles if a quarantine is triggered (typically four to six months).
- The size of the eradication area is defined as that area within 1.5 miles of each detection site, squared off to create a nine-square mile block, and adjusted to use existing features as boundaries, such as roads.
- Life cycle durations are dependent on temperature.



Mixing the SPLAT®.



Applying to street tree.



Close up of bait station

4. Male Attractant Technique with Cuelure

The male attractant technique will be used to eliminate all mature male cuelure responding invasive fruit flies, like the tau fly. The male attractant technique makes use of small amounts of the attractant cuelure mixed with a pesticide, which

are absorbed by cotton wicks placed in Jackson traps, or attractant cue lure plugs with DDVP pesticide strips placed in baskets within the Jackson trap.

- Male flies are lured to the traps, where they are killed by the pesticide when they feed.
- The male attractant technique is applied as traps placed in trees, shrubs, or other inanimate objects.
 - The traps are placed six to eight feet above the ground and out of the reach of the public.
 - Traps are replaced every four weeks for two life cycles (typically four to six months).
- The project boundaries will be nine-square miles around each site where flies were detected.
- Application is made to a targeted density of 1000 evenly distributed sites in each square mile.
- Life cycle durations are dependent on temperature.

5. Sterile Insect Technique

The sterile insect technique is used for Mediterranean fruit fly and Mexican fruit fly quarantines. Residents may notice an increase in fruit flies during sterile insect technique releases.

- The CDFA produces sterile male Mediterranean fruit flies and/or Mexican fruit flies to prevent the production of viable offspring.
- The wild female Mediterranean fruit flies and/or Mexican fruit flies mate with the sterile males and produce infertile eggs, thereby disrupting the breeding cycle and causing the population to be eliminated.
- Sterile flies are released by aircraft and/or vehicles in the area surrounding the detection sites. These release areas will typically include the area that lies within and surrounding a 1.5-3.5 mile radius around each detection site.
 - Releases are repeated every three to seven days for two life cycles of the fly (typically four to six months, dependent on temperature).
- In order for the technique to succeed, a minimum over-flooding ratio of 100 to 1 should be maintained.
 - The current release rate used is 250,000 males per square mile per week, or 500,000 flies when both males and females are released.
- The sterile insect technique is most effective when used in conjunction with bait sprays to kill existing mated wild female flies and to reduce the overall wild adult population density.



Ground release truck

Sterile fruit flies in automated dispenser that get loaded into the plane for release.

SENSITIVE AREAS

The CDFA has consulted with the California Department of Fish and Wildlife's California Natural Diversity Database for threatened or endangered species, the United States Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Wildlife when rare and endangered species are located within the treatment area.

- Mitigation measures for rare and endangered species will be implemented as needed.
- The CDFA will not apply pesticides to bodies of water or undeveloped areas of native vegetation.
- All treatment will be applied to residential properties, common areas within residential development, non-agricultural commercial properties, and rights-of-way.

PUBLIC NOTIFICATION

For Male Attractant Technique and Sterile Insect Technique applications, notification is given to the general public via mass media outlets such as newspapers or press releases.

Residents of properties affected by foliar bait sprays or host fruit removal shall be notified in writing at least 48 hours in advance of any treatment, in accordance with the California Food and Agricultural Code (FAC) sections 5771-5779 and 5421-5436.

Following foliar bait treatment, completion notices are left with residents detailing precautions to take and post-harvest intervals applicable to any fruit and vegetables on the property.

Press releases, if issued, are prepared by the CDFA information officer and the county agricultural commissioner in close coordination with the program leader responsible for

treatment. Either the county agricultural commissioner or the public information officer serves as the primary contact to the media.

Information concerning the program will be conveyed directly to local and State political representatives and authorities via letters, emails, and/or faxes. Enclosed are the findings regarding the treatment, map of the treatment area, work plan, of alternative treatment methods, and a pest profile.

For any questions related to this program, please contact the CDFA toll-free telephone number at 800-491-1899 for assistance. This telephone number is also listed on all treatment notices. Treatment information is posted at <http://www.cdfa.ca.gov/plant/pdep/treatment/>.