

DEPARTMENT OF FOOD AND AGRICULTURE  
PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations

Section 3591.5, Subsection (a)

Mediterranean Fruit Fly Eradication Area

INITIAL STATEMENT OF REASONS/

POLICY STATEMENT OVERVIEW

Description of Public Problem, Administration Requirement, or Other Condition or Circumstance  
the Regulation is Intended to Address

This regulation is intended to address the obligation of the Department of Food and Agriculture to protect the agricultural industry from the movement and spread of injurious plant pests within California.

Specific Purpose and Factual Basis

The specific purpose of Section 3591.5 is to provide authority to the State to eradicate infestations of *Ceratitis capitata*, Mediterranean fruit fly, from within the declared eradication area by the established means and methods.

The factual basis for the determination by the Department that the amendment of this regulation is necessary is as follows:

On November 14, 2017, (Pest and Damage Record #410P06096313) a sexually mature adult male Mediterranean fruit fly was taken from a trap in the Half Moon Bay area of San Mateo County. This detection of an adult Mediterranean fruit fly is indicative of a possible incipient infestation of the fly in the Half Moon Bay area of San Mateo County. This is the first time Mediterranean fruit fly has been detected in San Mateo County. Mediterranean fruit fly is a destructive insect pest which attacks the fruit of various plants including over 200 crops such as almonds, citrus, tomatoes, grapes, avocados, peaches, and cherries. The female punctures host fruit to lay eggs which develop into larvae. The punctures admit decay organisms that may cause tissue breakdown. Larval feeding causes breakdown of fruit tissue. Fruits with egg punctures and larval feeding are generally unfit for human consumption. Pupae may be found in fruit, but normally are found in soil.

This occurrence of Mediterranean fruit fly triggers the delimitation response as outlined in the United States Department of Agriculture's Cooperative Fruit Fly Emergency Response Triggers & Guidelines in San Mateo County. This response requires CDFA to have eradication authority in San Mateo County.

The implementation of this proposed regulatory action is necessary to prevent the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA APHIS) from considering the entire state as infested with Mediterranean fruit fly, rather than just the current area of San Mateo County. If USDA APHIS were to consider the entire state infested, there would likely be additional detrimental quarantine requirements directed against California host commodities by the USDA APHIS and our international trade partners.

This regulation will avoid harm to the public's general welfare by providing authority for the Department to perform detection, control, and eradication activities against *Ceratitidis capitata* in San Mateo County. It is necessary to begin eradication activities to prevent spread of the fly to non-infested areas. Therefore, it is necessary to amend this regulation.

The entire county of San Mateo is being proposed as an eradication area because the utilization of these political boundaries will avoid frequent amendments to the regulation; if the Mediterranean fruit fly is detected elsewhere within this county there will be no associated regulatory impacts in areas of the county where no flies are found. The existing regulation covers the entire counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Clara, Solano, Tulare and Ventura. Fruit may have already been moved from the infested area to another portion of the county, and flies which may have already spread naturally from the infested area may have already resulted in small infestations outside the current known infested area. Additionally, these fly finds may be linked to smuggled uncertified fruit shipments which have been distributed within the State. Only through the implementation of this regulation would the Department be able to rapidly treat these small infestations in the affected county.

If the Mediterranean fruit fly were allowed to spread and become established in host fruit production areas, California's agricultural industry would suffer losses due to decreased production of marketable fruit, increased pesticide use, and loss of markets if other states or countries enacted quarantines against California products.

Per the November 29, 2017 United States Department of Agriculture Economic Research Service, California fruits and nuts (including almonds, citrus, grapes, avocados, peaches, and cherries) were valued at \$16,049,163,000 in 2016.

#### Potential Impact to Homeowners and Community Gardens

Many of the host fruits attacked by the Mediterranean fruit fly are enjoyed by the home gardener and community gardens. Therefore, if Mediterranean fruit fly is not eradicated homeowners and community gardeners would be negatively impacted.

#### Potential Impacts to General Fund and Welfare

The negative impacts to agriculture would in turn negatively impact the State's economic recovery which would negatively impact the general welfare of the State.

California's unemployment rate in July 2017 fell to 4.8 per cent. During the preceding 12 months prior to July 2017, the average amount of individuals employed in agriculture was 421,475. The agricultural industry is one of the economic engines which are lowering the State's unemployment rate. Additionally, any job losses in this area would likely be felt by low-skilled workers whose employment options are already limited. The loss of any agricultural jobs would likely result in an increase in the State's public assistance obligations which would also negatively impact the State's economic recovery.

#### Action Plan

This amendment will provide authority for the State to perform specific detection, control, and eradication activities against the Mediterranean fruit fly in San Mateo County. This authority includes "the searching for all stages of the fly by visual inspection, the use of traps, or any other means." It is necessary to perform delimitation procedures within San Mateo County. These delimitation procedures are nationally and internationally accepted standards for establishing if there is an incipient infestation of Mediterranean fruit fly and its exact location.

## **Intensive Delimitation Trapping**

Intensive trapping is triggered after a single fly is trapped by the Department. Following confirmation of the specimen through lab tests, trap densities will be increased over an 81-square mile area centered on the detection site. Within the next 24 hours, 100 Jackson traps and 50 Multi-Lure traps are placed in the core around each find site. In the remaining four one-mile deep buffers, Jackson traps are placed at densities of 50, 25, 10, and 20 traps per square mile respectively, going outward. Multi-Lure traps are placed at densities of 20 per square miles at the 1 and 2 mile buffer. 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, and then trap densities revert to detection trapping levels. However, if a second fly is found, additional traps are deployed around the new fly find and trap servicing in the core area will go to a twice weekly schedule and increased emphasis will be placed on servicing traps in the buffer areas in an effort to better delimit the infestation. Traps in the eight-square miles around the core are serviced every two days, until eradication activities begin, at which time the trap inspection frequency changes to weekly. All traps are then serviced weekly for three life cycles of the fly beyond the last fly detected. Traps may be relocated to available preferred hosts as practical.

The core-square mile surrounding each detection site is 0.5-mile radius with 50 Jackson and 25 McPhail traps. The first buffer is eight square miles surrounding core with 25 Jackson traps per square mile. The second buffer is 16 square miles surrounding first buffer with 15 Jackson traps per square mile. The third buffer is 24 square miles surrounding second buffer with 10 Jackson traps per square mile. The fourth buffer is 32 square miles surrounding third buffer with five Jackson traps per square mile.

Following an eradication program, if no additional flies are trapped, intensive trapping ends after the third complete life cycle, following the last fly find, as determined by a temperature-dependent developmental model run by program personnel in Sacramento.

### Larval Survey

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. In the absence of visible clues, 100 or more of the fruit on preferred hosts (if available) may be cut open at random and examined for larvae. First and second instar larvae are tiny and may be

feeding immediately under the surface of the skin; therefore, fruit cutting should be left to experienced personnel. Fruit on properties adjacent to a trap catch may also be inspected.

## **ERADICATION ACTIVITIES**

### Triggers and General Approach

The Department begins an eradication project when it determines that a Mediterranean fruit fly infestation exists within the state. Although there is no debate that either criterion two or three of the below criteria indicate the presence of a breeding Mediterranean fruit fly population, criterion one below is often open to further review. The CDFA may take up to 10 days, after the criteria are met, to further refine the presence and location of the infestation in order to better target eradication activities.

1. Two flies within three miles of each other and within a time period equal to one life cycle of the fly;
2. One mated female; or
3. Larvae or pupae.

After an infestation is determined to exist and, 24 to 72 hours later, a notification of treatment is issued, then treatment will begin.

Treatment activities may include the following methods:

### **Sterile Insect Technique**

The sterile insect technique (SIT) makes use of sterile male Mediterranean fruit flies to prevent the production of viable offspring. The wild female Mediterranean fruit flies mate with the sterile males and produce infertile eggs, thereby disrupting the breeding cycle and causing the population to be eliminated. SIT is most effective when used in conjunction with bait sprays to kill existing mated wild female Mediterranean fruit flies and to reduce the overall wild adult population density. In order for the technique to succeed, a minimum over-flooding ratio of 100 sterile males to 1 wild female should be maintained. The current release rate used is 250,000 males per square mile per week. Sterile flies are released by aircraft within a nine-square mile area around each detection site. Releases are repeated every three to four days for two life cycles of the fly, which typically lasts four to six months, depending on temperature.

## **Foliar Spray**

The foliage of host trees and shrubs within 200 meters of each detection site will be treated with an organic formulation of spinosad bait spray (GF-120 NF Naturalyte® Fruit Fly Bait) using hand spray or hydraulic spray equipment. Affected properties will be notified in writing at least 48 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 14 - day intervals during one life cycle of the Mediterranean fruit flies, which typically lasts two to three months, depending on temperature.

## **Host Fruit Removal**

If evidence that a breeding population exists on a property (i.e., immature stages, mated female, or multiple adults are detected), host removal (fruit stripping) may be used in conjunction with the other treatment options. All host fruit will be removed from all properties within a 100-meter radius around the detection sites. The fruit is taken to a landfill for burial using regulatory compliance protocols. Treatment will occur once at the beginning of the project, but may be repeated if additional flies are detected. Affected properties will be notified in writing at least 48 hours prior to removal of the fruit.

## California Environmental Quality Act

A Statewide Plant Pest Prevention and Management Program Environmental Impact Report (EIR) was prepared by the Department as the lead agency under the California Environmental Quality Act. The EIR addresses the potential impacts and mitigations when implementing the Statewide Plant Pest Prevention and Management Program activities related to Mediterranean fruit fly.

The EIR may be accessed at the following website:

<http://www.cdfa.ca.gov/plant/peir/>.

## Economic Impact Analysis

The eradication and prevention of the spread of Mediterranean fruit fly in California through the amendment and implementation of this regulation economically benefits:

- the general public

- homeowners and community gardens
- agricultural industry
- the State's general fund.

These treatments are part of our general exotic fruit fly treatment program. Single area treatments such as this one for the San Mateo area are estimated to cost approximately \$50,000.

#### The Creation or Elimination of Jobs within the State

The amendment is designed to minimize the spread of Mediterranean fruit fly to ensure that the devastating damage caused by Mediterranean fruit fly is limited to the smallest area possible. Compliance activities are currently being performed by existing state staff throughout quarantine areas within the State. The Department has been conducting quarantine actions throughout the State for over 30 years without causing significant creation or elimination of jobs. Therefore, the Department has determined that this regulatory proposal will not have a significant impact on the creation or elimination of jobs in the State of California.

#### The Creation of New Businesses or the Elimination of Existing Businesses within the State

The amendment is designed to minimize the spread of Mediterranean fruit fly to ensure that the devastating damage caused by Mediterranean fruit fly is limited to the smallest area possible. Compliance activities are currently being performed by existing state staff throughout quarantine areas within the State. The Department has been conducting quarantine actions throughout the State for over 30 years without causing significant creation of new businesses. Therefore, the Department has determined that this regulatory proposal will not have a significant impact on the creation of new businesses in the State of California.

#### The Expansion of Businesses Currently Doing Business within the State

The amendment is designed to minimize the spread of Mediterranean fruit fly to ensure that the devastating damage caused by Mediterranean fruit fly is limited to the smallest area possible. Compliance activities are currently being performed by existing state staff throughout quarantine areas within the State. The Department has been conducting quarantine actions throughout the State for over 30 years without causing significant creation of new businesses. Therefore, the

Department has determined that this regulatory proposal will not have a significant impact on the expansion of businesses currently doing business in the State of California.

#### Anticipated Benefits from This Regulatory Action

Existing law, FAC section 403, provides that the department shall prevent the introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds.

Existing law, FAC section 407, provides that the Secretary may adopt such regulations as are reasonably necessary to carry out the provisions of this code which the Secretary is directed or authorized to administer or enforce.

Existing law, FAC section 5321, provides that the Secretary is obligated to investigate the existence of any pest that is not generally distributed within this State and determine the probability of its spread, and the feasibility of its control or eradication.

Existing law, FAC section 5322, provides that the Secretary may establish, maintain, and enforce quarantine, eradication, and such other regulations as are in the Secretary's opinion necessary to circumscribe and exterminate or prevent the spread of any pest which is described in FAC section 5321.

Existing law, CCR Section 3591.5, defines the state's eradication areas for Mediterranean fruit fly.

The existing law obligates the Secretary to investigate and determine the feasibility of controlling or eradicating pests of limited distribution, but establishes discretion with regard to the establishment and maintenance of regulations to achieve this goal. This amendment provides the necessary regulatory authority to prevent the artificial spread of a serious insect pest, which is a mandated statutory goal.

This regulation will benefit the public's general welfare by providing authority for the State to perform detection, control, and eradication activities against Mediterranean fruit fly in San Mateo County.



The implementation of this regulation will prevent:

- direct damage to the agricultural industry growing host fruits
- indirect damage to the agricultural industry growing host fruits due to the implementation of quarantines by other countries and loss of export markets
- increased production costs to the affected agricultural industries
- increased pesticide use by the affected agricultural industries
- increased costs to the consumers of host fruits
- increased pesticide use by homeowners and others
- the need to implement a State interior quarantine
- the need to implement a federal domestic quarantine

The Department is the only agency which can implement plant quarantines. As required by Government Code Section 11346.5(a)(3)(D), the Department has conducted an evaluation of this regulation and has determined that it is not inconsistent or incompatible with existing state regulations.

#### Estimated Cost of Savings to Public Agencies or Affected Private Individuals or Entities

The Department of Food and Agriculture has determined that subsection 3591.5 does not impose a mandate on local agencies or school districts and no reimbursement is required under Section 17561 of the Government Code.

The Department also has determined that no savings or increased costs to any state agency, no reimbursable costs or savings under Part 7 (commencing with Section 17500) of Division 4 of the Government Code to local agencies or school districts, no nondiscretionary costs or savings to local agencies or school districts, and no costs or savings in federal funding to the State will result from the amendment of subsection 3591.5.

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Department has determined that the proposed actions will not have a significant adverse economic impact on housing costs or California business, including the ability of California businesses to compete with businesses in other states. The Department's determination that the

action will not have a significant statewide adverse economic impact on business was based on the following:

The amendment of subsection 3591.5 will provide authority for the Department to conduct eradication activities against Mediterranean fruit fly in San Mateo County and there are no known private sector cost impacts.

### Assessment

The Department has made an assessment that the amendment of the regulation would not 1) create or eliminate jobs within California; 2) create new business or eliminate existing businesses with California; or 3) affect the expansion of businesses currently doing business with California. The Department has been conducting eradication projects throughout the State without creating or eliminating businesses.

### Alternatives Considered

The Department of Food and Agriculture must determine that no alternative considered would be more effective in carrying out the purpose for which the action is proposed or would be as effective as and less burdensome to affected private persons than the proposed action.

### Information Relied Upon

The Department relied upon the following studies, reports, and documents in the proposed adoption and subsequent amendment of Section 3591.5:

“Pest and Damage Record #410P06096313,” dated November 14, 2017, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

“Mediterranean Fruit Fly Action Plan,” United States Department of Agriculture, Marketing and Regulatory Programs, Animal and Plant Health Inspection Service, Plant Protection and Quarantine.

“California Cash receipts by commodity” USDA/ERS Farm Income and Wealth Statistics, Data as of November 29, 2017