

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations
Section 3591.13 Guava Fruit Fly Eradication Area

INITIAL STATEMENT OF REASONS/
POLICY STATEMENT OVERVIEW

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

This regulation is intended to address the obligation of the California Department of Food and Agriculture (Department) to protect the agricultural industry from the movement and spread of injurious plant pests within California as required by Food and Agricultural Code (FAC) Sections 401 and 403.

Purpose and Factual Basis

The specific purpose of this amendment to Section 3591.13 (a) is to expand the area in which the State may eradicate infestations of *Bactrocera correcta*, Guava fruit fly (GFF), using established means and methods and update Section 3591.13 (b)'s host list for GFF to harmonize it with the most current available information.

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

The Department, along with county partners, carries out statewide ongoing detection trapping for GFF, a federal and state actionable pest. GFF is a destructive insect pest of a large number of commercial agricultural crops. GFF attacks the fruit of various plants including guava, peach, cherry, melons, and tangerines. 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 California detection of GFF occurred in Orange County in 1986, and since that time, several re-introductions have occurred. The Department used the eradication authority provided by Section 3591.13 to successfully delimit and eradicate these GFF incursions. Eradication authority must be in place to ensure that effective programmatic actions can be determined and initiated as quickly as possible after detection.

If GFF is found in a county outside the current eradication area, then an emergency regulation is promulgated to allow fruit fly eradication actions within that county. Although this is a fairly rapid process, it often results in short delays of eradication activities. To date, the Department has been very effective at stopping incipient infestations of GFF. However, even short delays in beginning control activities can make the difference between a short programmatic action and an GFF quarantine. In order to prevent the imposition of quarantines caused by delay, the Department is using information from past detections of GFF to predict the counties in which there is a high risk of GFF detection in the future.

To ensure that the Department has eradication authority for future GFF detections, the Department used geographic modeling to determine where GFF is most likely to establish an infestation in the state. The results of the model were used to determine the expanded list of counties in the amendment to Section 3591.13 (a).

On January 14, 2021, the Department concluded a new modeling risk analysis using Maximum Entropy (MaxEnt). MaxEnt is a modeling algorithm that identifies risk of infestation based on presence-only data (in this case, the presence of GFF, and user-defined variables such as human population and presence of transportation hubs). A technical analytical group within the Department developed this model using the methods described in Phillips, et al., 2006. The model output provides an estimate of the risk of occurrence for a pest detection in each pixel of the input grid. Each county is then ranked

as a very high, high, medium or low risk county for pest occurrence based on risk calculated for the pixels contained within the county boundaries (CDFA, 2021). Counties which are considered to be a high or very high risk for GFF include the twelve counties currently included as eradication areas in 3591.13(a): Alameda, Contra Costa, El Dorado, Los Angeles, Orange, Placer, Riverside, Sacramento, San Bernardino, San Diego, Santa Clara, and Ventura. Although climate change projections were not included in the model, the warmer years that California has experienced recently are expected to increase the chances of finding GFF in areas that are amenable to GFF introduction but have not yet been included as eradication areas. There are another ten counties which are listed as at high or very high risk for pest infestation: Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo. The Department is proposing to add these 10 counties to the eradication area in Section 3591.13(a).

Relying on modeling based on prior detections and human based behavior to determine areas that are at high risk allows the Department to be better prepared for further detections. This amended regulation will avoid harm to the public's general welfare by allowing the Department to quickly implement control and eradication activities against GFF if it is found in the counties of Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo, and thereby lower the risk of triggering a quarantine.

If a certain quantity of GFF is found within a certain area and period of time, then an internal fruit fly quarantine is established in the area of detection. Many of the host fruits attacked by the GFF are enjoyed by the home gardener and community gardens. If a fruit fly quarantine is triggered, then backyard growers of host fruit within the quarantine zone cannot move their fruit and, in some cases, fruit is removed and destroyed to prevent GFF spread. Such quarantines cost host commodity growers and produce sellers time and resources to comply with quarantine requirements. The amendment of this regulation will help ensure the maintenance of the current economic baseline. Prevention of costs of pest quarantines to the California public and the Department help preserve the economic

baseline and maintain the welfare of the California.

Project Description

This amendment will provide authority for the State to perform specific detection, control, and eradication activities against GFF in Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo counties. This will allow targeted actions for eradication of GFF and reduce the chance of natural and artificial dispersal and the subsequent spread of the pest in California. Any eradication actions taken by the Department will be in cooperation with the United States Department of Agriculture (USDA) and the affected county agricultural commissioners.

The changes requested to the host list in Section 3591.13 (b) bring the host list in harmony with the current USDA list and some of the correct common names used on the USDA list. This amendment will help eradication activities by allowing for the correct targeting of hosts.

Current Laws & Regulations

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 that the Secretary is directed or authorized to administer or enforce.

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

Existing law, FAC Section 5761, provides that the Secretary may proclaim any portion of the state to be an eradication area with respect to the pest, prescribe the boundaries of such area, and name the pest and the hosts of the pest which are known to exist within the area,

together with the means or methods which are to be used in the eradication or control of such pest.

Existing law, FAC Section 5762, provides that the Secretary may proclaim any pest with respect to which an eradication area has been proclaimed, and any stages of the pest, its hosts and carriers, and any premises, plants, and things infested or infected or exposed to infestation or infection with such pest or its hosts or carriers, within such area, are public nuisances, which are subject to all laws and remedies which relate to the prevention and abatement of public nuisances.

Existing law, FAC Section 5763, provides that the Secretary, or the commissioner acting under the supervision and direction of the director, in a summary manner, may disinfect or take such other action, including removal or destruction, with reference to any such public nuisance, which he thinks is necessary.

Existing law, FAC Section 5764, provides that if an eradication area has been proclaimed with respect to a species of fruit flies and the removal of host plants of such species is involved, the director may enter into an agreement with the owner of such host plants to remove and replace them with suitable nursery stock in lieu of treatment. Expenditures, if any, allocated for the replacement nursery stock shall not exceed an amount which is budgeted for the purpose or approved by the Director of Finance.

The existing laws obligate the Secretary to investigate and determine the feasibility of controlling or eradicating pests of limited distribution but establish 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.

FAC Section 401.5 states, “the department shall seek to protect the general welfare and economy of the state and seek to maintain the economic well-being of agriculturally

dependent rural communities in this state.” The amendment of this regulation is preventing the potential spread of the GFF to un-infested areas of the State.

Anticipated Benefits from This Regulatory Action

The adoption of this regulation provides the necessary regulatory authority to eradicate a serious insect pest; this is a mandated, statutory goal. Prevention of the establishment and spread of GFF 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

This regulation is necessary to prevent the spread of GFF to un-infested areas of the State. The regulation benefits industries (nursery, fruit for domestic use and exports, packing facilities), the environment (urban landscapes), and the overall California economy by preventing the spread of GFF.

The amendment of this regulation benefits the guava, peach, cherry, melons, and tangerines industries (nursery, fruit for domestic use and exports, packing facilities) and the environment (urban landscapes) by providing the Department an eradication program to prevent the artificial spread of the GFF over short and long distances.

The California, national and international consumers of California guava, peach, cherry, melons, and tangerines benefit by having high quality fruit available at lower cost. The Department assumes that any increases in production costs will ultimately be passed on the consumer.

The amendment of this regulation benefits homeowners who grow their own host fruits for consumption and host material which is planted as ornamentals in various rural and urban landscapes.

The adoption of this regulation may benefit homeowners who grow host material for consumption and/or ornamentals in various rural and urban landscapes. By providing a basis to prevent infestation with GFF and thereby preventing damage to hosts, the regulation eliminates any future need for hosts to be treated to mitigate infestations of GFF.

There are no existing, comparable federal regulations or statutes.

There are no known specific benefits to worker safety or the health of California residents.

California Environmental Quality Act

Prior to conducting any action authorized by this regulation, the Department shall comply with the California Environmental Quality Act of 1970 (Public Resources Code Section 21000 et. seq. as amended) and the State CEQA Guidelines (Title 14 California Code of Regulations Section 15000 et. seq.).

Mandate on Local Agencies or School Districts

The Department of Food and Agriculture has determined that this regulation does not impose a mandate on local agencies or school districts.

Economic Impact Analysis (Government Code 11346.3(b))

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

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

The Creation or Elimination of Jobs within the State

The Department has been conducting eradication 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 or Elimination of Businesses in California

The Department has been conducting eradication 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 California.

The Expansion of Businesses in California

The Department has been conducting eradication actions throughout the state for over 30 years without causing significant impact on 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 California.

Worker Safety

This regulation is not expected to have an effect on worker safety.

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

The Department of Food and Agriculture has determined that Section 3591.13 does not impose a mandate on local agencies or school districts. All eradication activities shall be conducted by the Department. Therefore, no reimbursement is required under Section 17561 of the Government Code.

The Department also has determined that 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 and no nondiscretionary costs or savings to local agencies or school districts, will result from the amendment of Section 3591.13.

There are 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 and no nondiscretionary costs or savings to local agencies or school districts anticipated from the adoption of this amendment.

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.

Potential Impact to Homeowners and Community Gardens

The implementation of this regulation will aid in preventing increased costs to the consumers of host materials and increased pesticide usage by homeowners and others. If an infestation of GFF is not eradicated due to a delay in eradication efforts, then homeowners and community gardeners would be negatively impacted.

Potential Impacts to General Fund and Welfare

The proposed amendment does not have immediate or definitive impact to the general fund or general welfare. Rather, it would facilitate a fast and effective response if GFF is detected in the new designated eradication area. Speed of response is key to eradicating an incipient pest infestation. Programmatic delays can lead to pest quarantines, increased production

costs, and job loss. The agricultural industry is one of the economic engines in the state. Negative impacts to agriculture impact the state's economy and the general welfare of the state. Additionally, any further job losses in this area would likely be felt by low-skilled workers whose employment options are already limited. The loss of any additional agricultural jobs would likely result in an increase in the State's public assistance obligations which would also negatively impact the state's economy.

The Department is the only agency that 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.

Assessment

The amendment is designed to prevent or minimize the spread of GFF by amending Section 3591.13 to include Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo counties and update the host list. The Department has made an assessment that the amendment to this regulation would not (1) create or eliminate jobs within California, (2) create new business or eliminate existing businesses within California, (3) affect the expansion of businesses currently doing business within California, (4) benefit workers' safety, and is expected to (5) benefit the health and welfare of California residents, and (6) benefit the state's environment.

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.

The Department considered taking no action as an alternative. If no action is taken, the Department would not have eradication authority for GFF in Marin, Napa, San Francisco,

San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo counties and the host list would not be updated. This is not a feasible alternative as further GFF detections could trigger a delimitation response as outlined in USDA's Cooperative Fruit Fly Emergency Response Triggers & Guidelines. This response requires CDFA to have eradication authority in Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo counties and have the most current host list.

Without eradication authority to treat fruit fly infestations in Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Cruz, Solano, Sonoma, Sutter, and Yolo counties and an updated host list the Animal and Plant Health Inspection Service (USDA APHIS) could designate the entire state as infested with GFF, rather than just infested counties. 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. Therefore, the alternative of no action was rejected.

Information Relied Upon

The Department is relying upon the following studies, reports, and documents in the amendment of Section 3591.2:

CDFA. 2000. "Action Plan for Methyl Eugenol Attracted Fruit flies, including the Oriental Fruit Fly, *Bactrocera dorsalis* (Hendel)," April 2000, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

CDFA. 2021. Results of MaxEnt modeling scenarios for Guava Fruit Fly (GFF), *Bactrocera correcta*. January 2021, California Department of Food and Agriculture, Plant Health and Pest Prevention Services. 2 pages.

Phillips, S.J., Anderson, R.P., and Schapire, R.E. 2006. "Maximum entropy modeling of species geographic distributions." *Journal of Ecological Modelling*, 190, 231-259