



Project Initiation

Extensive scientific research and the recommendation of scientific advisory panels form the basis for the enactment of an exotic fruit fly quarantine.

Triggers* for the State of California For All Exotic Fruit Fly Programs (except as indicated below):

- one mated female, presumed or known to be mated to a wild male, and/or
- two or more flies within three miles and one life cycle, and/or
- two or more life stages
- **except** that for **methyl eugenol-attracted** flies (including but not limited to **Oriental fruit fly, guava fruit fly and peach fruit fly**):
 - **in urban areas** – 8 or more adult flies (of either sex) must be detected within an area with a 3 mile (4.8 km) radius within one life cycle (all detections must be more than 4 ½ miles (7.2 km) from any commercial host production area), or
 - **in rural or commercial host production areas**
 - 6 or more adult flies must be detected within an area with a 3 mile (4.8 km) radius within one life cycle, or one mated female, a larva, or a pupa is detected, or
 - in any area — one fly (any life stage) is detected which is determined to be associated with a current fruit fly regulated area.
- **PILOT: for Mexican fruit fly (MXFF):**
 - trapping up to 4 flies (males or unmated females) will initiate the placement of an official Hold Notice on each property where the fly was trapped and all properties within a 200-meter radius of it,
 - trapping 5 or more MXFF of either sex will trigger a quarantine program,
 - detecting MXFF pupae, larvae or eggs on the fly find property or trapping a mated female MXFF will trigger a quarantine program, and
 - eradication treatments alone will continue to be initiated when only 2 to 4 MXFF, either males or unmated females, are trapped.

Regulatory Response to an Exotic Fruit Fly Find

***Trigger – the definition of a reproductive population may vary in other localities and under special conditions. Refer to current Action Plans for information on various Tephritid species.**

Following initial detection trapping of an exotic fruit fly, before the triggers for a quarantine response are reached, a regulatory response team (including representatives of CDFA, USDA and the office of the local county agricultural commissioner) proceeds with the following activities in the relative area of the initial fly find(s):

- A **Hold Notice** is issued to the fly find property and any adjoining property with FFHM
- Contact is made with the:
 - County Office of the Agricultural Commissioner public affairs officer
 - State and federal regulatory agencies
 - Agricultural associations and/or Farm Bureau
- A “quarantine incident” results when the trigger has not been reached but hold notices are issued on the fly find properties and eradication begins
- If the trigger is reached in terms of fly finds:
 - an infestation is declared
 - local information lists (e.g., business locations that handle FFHM, residential areas, agricultural properties, geographical landmarks, major roadways, etc.) are generated by field staff
 - maps are made of proposed boundaries
 - a written delineation is produced of the geographic area(s) involved
 - This information is transmitted to quarantine staff at CDFA, USDA/APHIS/PPQ, and those county agricultural commissioner(s) whose



- jurisdiction(s) is/are in the quarantine area(s)
- The movement of possibly compromised fruit (i.e., FFHM produced or packed within a **4.5-mile radius** of the fly find) is stopped once the quarantine is enacted by state/federal regulations and is being enforced
 - No unprocessed fruit is allowed to leave the core fly find site (1 mile²) for the duration of the quarantine
 - Door-to-door surveys begin with distribution of exotic fruit fly information pamphlets, as well as voluntary homeowner questionnaires, in a 4 – 4 ½ block radius surrounding each fly find
 - A phone tree is set up with all affected growers and establishments to notify them of imminent meetings within the quarantine area, which will provide them with regulatory information and provide each of them with an opportunity to sign a compliance agreement
 - In addition, any packer or processor who is located either inside or outside the regulated area, *and who is accepting fruit from within the quarantine*, is provided with regulatory information and signed into compliance
 - Treatment programs are implemented for regulated commodities produced within the quarantine area
 - If FFHM has left the new quarantine area (i.e., the 4.5 mile radius of the fly find) and may be compromised, it is destination-tracked back 30 days **prior** to the fly find
 - Trace-back information on FFHM shipments is sent to our trading partners both foreign and domestic
 - FFHM groves are plotted showing their relation to the fly find site(s)
- A fruit tracking system is set up with packers, utilizing either:
 - A certificate or stamp system for packers, or
 - Issuance of certificates to allow movement of FFHM (530's or 540's)
 - A facility is located to serve as the regulatory headquarters site
 - A telecommunications center is established at the same facility (phone/fax/e-mail/Internet connections)
 - A permit is requested from CalTrans and/or Department of Public Works to install roadway signs (in English and other appropriate languages) restricting movement of host fruit, to be displayed alongside public thoroughfares (i.e., state and interstate highways and freeways)
 - The quarantine area is continually monitored by quarantine field staff for:
 - Ongoing compliance
 - Area harvesting activity

Safeguarding

Hold Notices:

Once a new, exotic fruit fly quarantine is enacted in an area, it is vitally important to halt the movement of all possibly compromised fruit fly host material within the vicinity of the fly find. A Hold Notice is issued to each fly find property. The movement of all potentially infested fruit (i.e., any fresh FFHM located within a 4.5-mile radius of the fly find(s), regardless of whether it was grown or brought into the area, and exposed to possible infestation) is stopped immediately.

For the duration of the quarantine, no unprocessed (i.e., fresh) fruit is allowed to leave the core fly find site (a 1 mile² area). Door-to-door fruit fly information distribution begins in the affected area(s). Project staff may interview



homeowners using a voluntary questionnaire (see form in Appendix 5D) to investigate possible sources of infested FFHM transported into the area prior to the fly find.

Primary Initial Contacts:

Regulatory Response

Before a wild, exotic fruit fly is trapped in a county, there are typically one of two different situations present:

- either an ongoing quarantine project is currently in place with regulatory staff handling an exotic fruit fly infestation, or
- there is no current quarantine activity and hence no staff already organized to handle a new fly find problem.

If the former scenario is present, the staff would be mobilized to handle the new threat; if the latter situation is the case, local CDFA, USDA and county officers will initially handle the implementation of a quarantine. It is for the personnel involved in the latter situation that this manual should have the greatest utility.

When a fruit fly quarantine staff is already in place, a new fly find will initiate a regulatory response, with the primary, initial contacts typically made by the current or designated CDFA regulatory agricultural biologist on staff, working with the USDA Regulatory Section leader. They must quickly inform the agricultural commissioner, of each county impacted by a proposed quarantine, that a fly find report has been received for their area. The county involved requests that the State initiate an emergency quarantine, to be followed by state and federal regulatory legislation mandating it.

Determination of Quarantine Boundaries

Utilizing established procedures both the CDFA and USDA officers, in conjunction with their staffs, must begin map delineation of the

proposed quarantine area. During this process, input is sought from county, state and federal authorities. Natural and manmade boundaries (i.e., mountain ranges, large bodies of water, freeways, etc.) can be incorporated into these boundaries. Typically, a 3-mile wide buffer zone within the quarantine lines is considered a high-risk area from which the infestation could spread. The proposed quarantine area, which can be drawn on currently published maps and aerial photographs, is then submitted to county, state and federal departments responsible for agricultural quarantines.

Regulatory field officer teams perform research, survey and reconnaissance activities to gather location information on those businesses and establishments that will need to be informed of and regulated for the required compliance during the quarantine.

Some strategies to ensure the success of this information gathering process are mentioned in later chapters of this manual. Such activities can involve two or more officers per vehicle driving throughout the quarantine area recording the sites that will be impacted by the quarantine, to get a sense or impression of the major food and agricultural concerns present. This activity should be concurrent with and may affect the delineation of the boundary marking process. There is no better substitute for *firsthand* viewing of the quarantine zone.

Tracebacks of Recently Shipped FFHM

Equally as important for domestic and foreign markets is the determination of where, when, how and by whom FFHM was shipped from the quarantine zone *before* it was declared under regulation. It is important to check shipping records for the previous one month, or 30 days prior to enacting a quarantine, and then alert each of the destination establishments of the new quarantine.



There is some risk of new infestations being caused at these locations if infested, recently transported, FFHM has moved outside the quarantine boundaries. Notifying trading partners immediately of these concerns demonstrates a quick action response to the fly find threat and its potential ramifications.

Regulating Public Roadways – Fruit Fly Quarantine Signs

Public highways and other major thoroughfares need to be posted with fruit fly quarantine signs to alert travelers moving into and out of the regulated area. To arrange sign placement along roadways, CalTrans, the public highway authority in California, must grant permission. Encroachment permits, work orders, and maps will be required for permission and assistance in erecting signs. For residential areas, city public works managers are the appropriate contacts.

For all of these agencies, certain sign size and height restrictions will be imposed. Signs typically can be 2' x 4' or 4' x 8' in size. Depending on the length of time they'll be in place, as well as local weather conditions, signs can be constructed of plywood, sheet metal, or medium density fiberboard (MDF) materials.

Examples of wording on signs, in both English and Spanish, used for previous California fruit fly quarantines are shown here.

**ENTERING FRUIT FLY
QUARANTINE AREA
NO HOMEGROWN FRUITS OR
VEGETABLES
TO LEAVE AREA**

**ENTERING FRUIT FLY
QUARANTINE AREA
NO FRUITS OR VEGETABLES
TO LEAVE THIS AREA
VIOLATORS MAY BE CITED**

**DO NOT MOVE BACKYARD FRUIT
ENTERING A FRUIT FLY
QUARANTINE AREA**

**LEAVING FRUIT FLY QUARANTINE AREA
NO FRUITS OR VEGETABLES
BEYOND THIS POINT
VIOLATORS MAY BE CITED**

**DO NOT MOVE BACKYARD FRUIT
LEAVING A FRUIT FLY QUARANTINE
AREA**

**LEAVING FRUIT FLY QUARANTINE AREA
NO HOMEGROWN FRUITS OR
VEGETABLES TO LEAVE AREA**

**NO SAQUE FRUTA DE SU HUERTA
ESTA SALIENDO
DE UNA AREA DE CUARENTENA
DE LA MOSCA DE LA FRUTA**

**NO SAQUE FRUTA DE SU HUERTA
ESTA ENTRANDO
A UNA AREA DE CUARENTENA
DE LA MOSCA DE LA FRUTA**



Permits and Certificates to Move Commodities

Regulated articles can only move from a quarantine area if a limited permit has been issued. A separate permit must be issued for each load and accompany each shipment (see examples below of federal forms #530-limited permit and #540-master certificate). This is done to facilitate fruit tracking should destination and distribution information be required for commodities recently shipped from a newly quarantined area.

No. X-000000

Information requested is needed to determine if a permit can be issued (7 CFR 301).
Form Approved: OMB NO. 0579-0088.
See reverse side for additional information.

**U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE**

LIMITED PERMIT

This permit authorizes the movement of the NONCERTIFIED articles described below to a specified destination for limited handling, utilization, or processing, or for treatment. The movement of such articles is regulated by Federal or State cooperative domestic plant quarantines.

1. DATE ISSUED _____ 2. VOID AFTER _____

3. NAME OF CONSIGNOR _____

4. SHIPPING POINT _____

5. NAME AND ADDRESS OF CONSIGNEE _____

6. VEHICLE LICENSE NO. & STATE _____ 7. R.R. CAR INITIALS _____

8. DESCRIPTION		
A. Quantity	B. Article	C. Remarks

9. SIGNATURE OF ISSUING OFFICER _____

ENDORSEMENT

The above described shipment was received by the designated consignee, and was handled in the manner approved under the provisions of all applicable Federal or State cooperative domestic plant quarantines.

10. DATE RECEIVED _____

11. SIGNATURE OF DESTINATION OFFICER _____

PENALTY FOR MISUSE OR ALTERATION (7 USC 163)

PPQ FORM 530 (APR 89) PART 1 - CONSIGNEE'S COPY
Previous edition obsolete.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1989-622-639

FORM APPROVED
OMB NO. 0579-0088

Information requested is needed to determine if a permit can be issued (7 CFR 301).
See reverse side for additional information.

X 000000

**U.S. DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Plant Protection and Quarantine**

CERTIFICATE

This certificate must be surrendered to the consignee at destination of shipment

The articles described below are certified under all applicable Federal or State cooperative domestic plant quarantines.

1. DATE ISSUED _____ 2. VOID AFTER _____

3. NAME OF CONSIGNOR _____

4. SHIPPING POINT _____

5. NAME & ADDRESS OF CONSIGNEE _____

6. VEHICLE LICENSE NO. & STATE _____ 7. R.R. CAR INITIALS & NO. _____

8. DESCRIPTION		
A. Quantity	B. Article	C. Remarks

9. SIGNATURE OF ISSUING INSPECTOR _____

**PENALTY FOR MISUSE OR ALTERATION
(7 USC 163)**

PPQ FORM 540 (APR 89) *Previous edition obsolete.* PART 1-CONSIGNEE

☆ U.S. GOVERNMENT PRINTING OFFICE: 1996-719-549



Databases and Data Collection and Processing

The project’s regulatory unit must perform daily computer input of compliance and treatment information from field officer site visit records. Data files (both computerized and written) are then stored, archived and utilized for subsequent report generation, whether by CDFA, USDA or county agricultural commissioner(s).

Note: As a priority consideration, a common standard unit of commodity weight (i.e., pounds) should be used from the very inception of data entry activities so that any future weight conversion confusion is avoided.

A Microsoft Access® database input form for fruit fly project regulatory field data has been developed by the Pest Exclusion Branch of CDFA. This cumulative information/storage and retrieval system becomes the database that can be accessed by various report-generating applications.

Three input “screens” are utilized for capturing data from regulatory documents filled out by field officers during quarantine activities (see initial screen 1, which is followed by screens 2 through 4 below; all contain fictitious data). Each of these screens displays the same header and footer information for the regulated establishment, but varies according to the type of information that can be input on each. The major categories of information capture include: establishment, regulatory activity, regulatory treatment, vendor, yard maintenance, crop identifier, location list, and limited permit data. If the data is available, all cells should be filled in.

This screenshot shows the 'Property/Parcel Form' for the State of California, CDFA Sacramento. The form includes fields for CA Date (6/1/2001), Project Name (Tenebris Precautionary Treatment), and CA Number (SA092001662131). It features a checklist for various establishment types such as Grower, Bee Owner, and Fruit Seller. The 'Property/Parcel Information' section includes fields for Establishment Name (Jack of All Trades), Address (1/2 mile south of intersection Hwy 76 and Main), City (Fallbrook), State (CA), Zip Code (92028), and Contact Name (Jack Smith). It also includes fields for Physical Location, Class Street (Main), and Grove Management (Text Estab). The Pest Type is set to Mexican Fruit Fly and Risk Factor is 1. Navigation buttons like 'New', 'Duplicate', 'Delete', 'Print', 'Close Form', and 'Quit' are visible at the bottom.

This screenshot shows the 'Property/Parcel Form' with the 'Remarks' section expanded. The Pest Type is now 'Mexican Fruit Fly'. The 'Remarks' field contains the text 'Not available Wednesdays'. The form structure and navigation buttons are consistent with the previous screen.

This screenshot shows the 'Property/Parcel Form' with the 'Crops/Commodities' section expanded. It includes fields for Commodity (Apples), Variety (Fuji), Total Acres (25.25), Total Plants (2,525), Acres to be treated (5), and Plants to be treated (500). It also includes fields for Projected Harvest Date (Begin: 7/1/2001, End: 8/1/2001), Harvester (Jack of All Trades), and Hauler (Text Estab). The form structure and navigation buttons are consistent with the previous screens.

This screenshot shows the 'Quarantine' application menu. It includes options for 'Input/Edit Records', 'Reports', 'Table Maintenance', and 'Quit'. A small box with the number '1' is located in the bottom right corner of the application window.