

Section 3444. *Zeugodacus tau* Fruit Fly Interior Quarantine

A quarantine is established against the following pest, its host, and possible carriers

A. Pest. The fruit fly *Zeugodacus tau* (formerly *Bactrocera tau*).

B. Area Under Quarantine.

- 1. An area shall be designated as under quarantine** when survey results indicate an infestation is present, the Department has defined the infested area, and the local California County Agricultural Commissioner(s) is notified and requests the quarantine area be established. The Department shall also provide electronic and/or written notification of the area designation(s) to other California County Agricultural Commissioners and other interested or affected parties and post the area description to its website at: <https://www.cdfa.ca.gov/plant/tau/regulation.html>. An interested party may also go to the website and elect to receive automatic notifications of any changes in quarantine areas through the list serve option.
 - a. An infestation is present when:** (a) Either eggs, a larva, a pupa, a mated female or two or more adult *Zeugodacus tau* fruit flies of either sex are detected within three miles of each other and within one life cycle.
 - b. Satellite infestations.** Notwithstanding (b)(4), A detection of a single life stage of *Zeugodacus tau* within any established quarantine area may be considered a satellite infestation and may be used as the epicenter using an additional 4.5-mile radius surrounding the detection to expand the quarantine area.
- 2. The initial area under quarantine shall be a minimum of a 4.5-mile** radius surrounding the detections being used as an epicenter. Commercial host properties shall not be split by the quarantine boundary line and the boundary line shall be expanded beyond the 4.5 miles as necessary to encompass such host material in its entirety. Wherever possible, known accepted mapping features, including, but not limited to, roads, streets, highways, creeks, streams, rivers, canals, city, county, state, park, and forest boundary

lines are used first, and if there are no acceptable features such as these, then imaginary lines with or without latitude and longitude points may be used.

3. **Any interested party or local entity may appeal** an area designation by submission to the Department of a written request for review of the designation accompanied by clear and convincing evidence justifying a change in the designation. The appeal must be submitted to the Department's Legal Office at 1220 N Street, Suite 315, Sacramento, CA 95814 or emailed to CDFA.LegalOffice@cdfa.ca.gov no later than ten (10) working days following publication of the notice of designation. The Department must respond with a written decision no later than ten (10) working days following receipt of the appeal. During the pending of the appeal, the designation under appeal shall remain in effect.
4. **The infested area designation shall be removed** if no additional life stages are detected by trapping or visual surveys for three life cycles after the last detection that the quarantine. Subsequent detections within the quarantine area that are more than three miles from, or one lifecycle after, the detections triggering the quarantine will not affect the area or duration of the quarantine unless they meet the criteria in subsection (b)(1)(A).
5. **The time determined for *Zeugodacus tau* to complete three life cycles** begins from the date of the most recent detection and is measured by a life cycle estimate. A life cycle estimate is an assessment of insect development based on a model derived from the temperatures recorded for each day at the time and in the area of an infestation. Daily minimum and maximum temperatures are used to produce an interpolated temperature curve over each 24-hour period and a calculation of how much time is above and below a base developmental (minimum) temperature needed for insect development. This information is used to estimate the time period necessary for the completion of one full lifecycle of *Zeugodacus tau* under the specific local and temporal circumstances. The total amount of heat required to develop from one stage to another is

calculated in units called degree-days. If the average temperature in 24 hours is one degree higher than the minimum temperature required for a particular pest, one degree-day's temperature is accumulated in the life cycle estimate.

Accumulating

degree-days is used to determine the generation time. For *Zeugodacus tau*, the Department uses 826 degree-days Fahrenheit as the length of one life cycle.

C. Articles and Commodities Covered. The following are declared to be hosts and possible carriers of *Zeugodacus tau* fruit fly.

1. All fruit, vegetables, pericarp of nuts, seeds, or berries of the following:

Scientific Name	Host Name
<i>Abelmoschus esculentus</i> (L.) Moench	Okra
<i>Adenia hondala</i> (Gaertn.) W. J. de Wilde	Hondala
<i>Annona muricata</i> L.	Soursop
<i>Annona squamosa</i> L.	Custard apple
<i>Artocarpus heterophyllus</i> Lam.	Jackfruit
<i>Artocarpus integer</i> (Thunb.) Merr.	Chempedak
<i>Averrhoa carambola</i> L.	Star fruit, Carambola
<i>Baccaurea angulata</i> Merr.	Red angle tampoi
<i>Bambusa pallida</i> Munro	Bakhal
<i>Benincasa hispida</i> (Thunb.) Cogn.	Ash gourd
<i>Benincasa</i> spp.	Gourd, melon
<i>Bidens biternata</i> (Lour.) Merr. & Sherff	Sendangusa
<i>Borassus flabellifer</i> L.	Palmyra palm, Doub palm
<i>Brassica oleracea</i> L.	Cabbage
<i>Capsicum annuum</i> L.	Chili pepper
<i>Capsicum frutescens</i> L.	Bird pepper
<i>Capsicum</i> spp.	Pepper
<i>Carica papaya</i> L.	Papaya
<i>Citrullus colocynthis</i> (L.) Schrad.	Bitter apple
<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	Watermelon
<i>Citrus maxima</i> (Burm.) Merr.	Pummelo
<i>Citrus paradisi</i> Macfad.	Grapefruit
<i>Citrus reticulata</i> Blanco	Mandarin orange
<i>Citrus sinensis</i> (L.) Osbeck	Sweet orange
<i>Citrus</i> spp.	Citrus
<i>Citrus tangelo</i> J. W. Ingram & H. E. Moore	Tangelo
<i>Citrus unshiu</i> Marcow.	Satsuma mandarin

<i>Coccinia grandis</i> (L.) Voigt	Ivy gourd
<i>Cucumis anguria</i> L.	Bur cucumber
<i>Cucumis melo</i> L.	Melon
<i>Cucumis sativus</i> L.	Cucumber
<i>Cucumis</i> spp.	Melon, cucumber
<i>Cucurbita argyrosperma</i> C. Huber	N/A
<i>Cucurbita maxima</i> Duchesne	Pumpkin
<i>Cucurbita moschata</i> Duchesne	Butternut squash
<i>Cucurbita pepo</i> L.	Bitter bottle gourd
<i>Cucurbita</i> spp.	Pumpkin, squash, gourd
<i>Dimocarpus longan</i> Lour.	Longan
<i>Diplocyclos palmatus</i> (L.) C. Jeffrey	Lollipop climber
<i>Dracontomelon dao</i> (Blanco) Merr. & Rolfe	Argus pheasant tree
<i>Eugenia</i> spp.	Eugenia
<i>Fagraea ceilanica</i> Thunb.	Hui li
<i>Ficus racemosa</i> L.	Cluster fig
<i>Ficus tinctoria</i> G. Forst.	Dye fig
<i>Gomphogyne cissiformis</i> Griff.	N/A
<i>Gymnopetalum scabrum</i> (Lour.) W. J. de Wilde & Duyfjes	Feng gua
<i>Hodgsonia macrocarpa</i> (Blume) Cogn.	Chinese lardfruit
<i>Hydnocarpus anthelminthicus</i> Pierre ex Laness.	Chaulmoogra tree
<i>Hydnocarpus</i> spp.	Chaulmoogra
<i>Hylocereus undatus</i> (Haw.) Britton & Rose	Dragon fruit, red pitaya
<i>Lagenaria siceraria</i> (Molina) Standl.	Bottle gourd
<i>Lagenaria</i> spp.	Gourd, calabash
<i>Luffa acutangula</i> (L.) Roxb.	Angled loofah
<i>Luffa aegyptiaca</i> Mill.	Loofah
<i>Luffa</i> spp.	Loofah
<i>Mangifera foetida</i> Lour.	Bachang mango
<i>Mangifera indica</i> L.	Mango
<i>Manilkara zapota</i> (L.) P. Royen	Sapodilla
<i>Melastoma malabathricum</i> L.	Indian rhododendron
<i>Momordica charantia</i> L.	Bitter melon
<i>Momordica cochinchinensis</i> (Lour.) Spreng	Balsam pear
<i>Momordica dioica</i> Roxb. Ex Willd.	Spine gourd
<i>Momordica</i> spp.	Balsam apple, balsam pear
<i>Morinda citrifolia</i> L.	Noni, Indian mulberry
<i>Morus</i> spp.	Mulberry
<i>Muntingia calabura</i> L.	Calabur tree
<i>Musa paradisiaca</i> L.	Banana

<i>Myxopyrum smilacifolium</i> (Wall.) Blume	Kuo ye jiao he mu
<i>Passiflora edulis</i> Sims	Passion fruit
<i>Persea americana</i> Mill.	Avocado
<i>Phaseolus vulgaris</i> L.	Bean
<i>Pometia pinnata</i> J. R. Forst. & G. Forst	Fijian longan
<i>Pouteria lucuma</i> (Ruiz & Pav.) Kuntze	Lucuma
<i>Prunus pseudocerasus</i> Lindl.	Chinese sour cherry
<i>Prunus salicina</i> Lindl.	Japanese plum
<i>Prunus</i> spp.	Peach, nectarine, cherry, almond
<i>Psidium guajava</i> L.	Guava
<i>Pyrus communis</i> L.	Pear
<i>Pyrus pyrifolia</i> (Burm. f.) Nakai	Sand pear, Chinese pear
<i>Pyrus</i> spp.	Pear
<i>Sechium edule</i> (Jacq.) Sw.	Chayote
<i>Siphonodon celastrineus</i> Griff.	N/A
<i>Siphonodon</i> spp.	N/A
<i>Siraitia grosvenorii</i> (Swingle) A. M. Lu & Zhi Y. Zhang	Monkfruit
<i>Solanum lycopersicum</i> L.	Tomato
<i>Solanum melongena</i> L.	Eggplant
<i>Solanum muricatum</i> Aiton	Melon pear
<i>Strychnos ignatii</i> P. J. Bergius	Ignatius bean
<i>Strychnos nux-vomica</i> L.	Nux-vomica
<i>Strychnos rupicola</i> Pierre	N/A
<i>Strychnos</i> spp.	N/A
<i>Strychnos thorelii</i> Pierre ex Dop	N/A
<i>Syzygium aqueum</i> (Burm. f.) Alston	Watery rose apple
<i>Syzygium jambos</i> (L.) Alston	Rose apple
<i>Syzygium malaccense</i> (L.) Merr. & L. M. Perry	Malay apple
<i>Syzygium samarangense</i> (Blume) Merr. & L. M. Perry	Java-apple
<i>Tetrastigma leucostaphylum</i> (Dennst.) Alston ex Mabb.	Indian Chestnut Vine
<i>Trichosanthes celebica</i> Cogn.	N/A
<i>Trichosanthes cordata</i> Roxb.	N/A
<i>Trichosanthes costata</i> Blume	N/A
<i>Trichosanthes cucumerina</i> L.	Annual gourd
<i>Trichosanthes dioica</i> Roxb.	Pointed gourd
<i>Trichosanthes pilosa</i> Lour.	Snake gourd
<i>Trichosanthes rubriflos</i> Thorel ex Cayla	N/A

<i>Trichosanthes</i> spp.	Annual gourd, Snake gourd
<i>Trichosanthes tricuspidata</i> Lour.	N/A
<i>Trichosanthes wallichiana</i> (Ser.) Wight	N/A
<i>Vigna unguiculata</i> (L.) Walp.	Cowpea
<i>Zehneria wallichii</i> (C. B. Clarke) C. Jeffrey	N/A

2. Soil within the drip area of plants producing, or which have produced, fruit or berries as listed in [Title 3 California Code of Regulations Section 3591.27 \(b\)\(1\)](#) and above.
3. Any other product, article, or means of conveyance when it is determined by the Secretary or County Agricultural Commissioner to present a hazard of spreading live life stages of *Zeugodacus tau* and the person in possession thereof has been so notified, either by public notice, written communication, or verbally by a county, state, or federal agricultural official;

D. Restrictions.

1. **At the wholesale level, articles and commodities covered in subsection (C) are prohibited movement within or from the area under quarantine** except as provided in (a) or (b) below:
 - a. If the article or commodity has been treated in a manner to eliminate *Zeugodacus tau*, is transported in a manner to preclude exposure to *Zeugodacus tau*, and is accompanied by a written certificate issued by an authorized State or county agricultural official affirming compliance with this subsection; or,
 - b. The article or commodity is moving for treatment or processing to eliminate *Zeugodacus tau*, is transported in a manner to preclude exposure to any *Zeugodacus tau* and is accompanied by a written certificate issued by an authorized State or county agricultural official affirming such movement has been authorized under this subsection.
2. **At the wholesale level, articles and commodities covered in subsection (C) which have been commercially produced outside the area under quarantine** are prohibited movement into the area under quarantine except when accompanied by a shipping document indicating the point of origin and

destination and moved in compliance with (a), (b) or (c) below:

- a. If the article or commodity is moving directly through the area under quarantine without stopping except as dictated by traffic controls and by a direct route in an enclosed vehicle or container or completely enclosed by a covering to prevent exposure to the *Zeugodacus tau* while enroute through the area; or,
 - b. The article or commodity is destined to a wholesale or retail establishment within the quarantined area and, if moving between 9 a.m. and sunset, is transported in an enclosed vehicle or container or completely enclosed by a covering to prevent exposure to *Zeugodacus tau*; or
 - c. The article or commodity is destined to a commercial processing facility.
3. **At the retail level, articles and commodities covered which have been commercially produced are prohibited movement from or within the area under quarantine** except when the person in possession has a proof of sale showing the commodity was purchased from a commercial establishment.
4. **Articles and commodities covered which have been noncommercially produced within the area under quarantine**, including “backyard” production, are prohibited movement from the premises where grown except under written authorization of the Department or County Agricultural Commissioner.
5. **Articles and commodities covered which have been noncommercially produced outside the area under quarantine** are prohibited movement into the area under quarantine except when the person in possession has signed a statement showing the commodity, amount, origin, destination, and date of transportation.
6. **Within the area under quarantine, no wholesale or retail establishment shall handle, sell, or offer for sale any article or commodity covered** unless such commodities at all times are maintained securely indoors or covered to minimize exposure to the environment in a manner to effectively preclude *Zeugodacus tau* access. No commodity covered shall be held for

sale or sold from a truck, trailer, or other mobile vehicle.

Note: Authority cited: Sections 407, 5301, 5302 and 5322, Food and Agricultural Code. Reference: Sections 5301, 5302 and 5322, Food and Agricultural Code.