



CITRUS PEST & DISEASE  
PREVENTION DIVISION  
CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

# Public Meeting Information

Asian Citrus Psyllid Control Program



CDFA REPORT A PEST HOTLINE: 1.800.491.1899

[www.cdfa.ca.gov/go/reportapest](http://www.cdfa.ca.gov/go/reportapest)

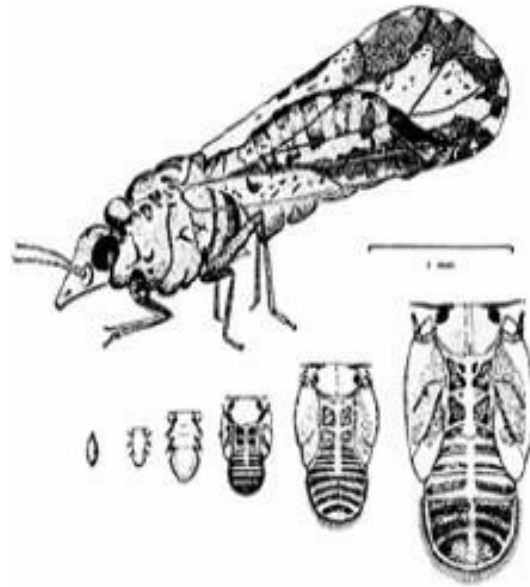
# ACP Lifecycle



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## Asian Citrus Psyllid Lifecycle

- Eggs laid singly
- 5 nymphal stages
- 10 generations /year
- Life cycle takes 15-47 days
- Egg to adult in 2 weeks at 75-80° F



## Asian Citrus Psyllid Life Stages



Eggs



Nymphs with wax exudate



Adult ACP



Adult feeding with nymphs

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# Huanglongbing or Citrus Greening Disease



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Lopsided fruit with aborted seeds



Asymmetric leaf mottling



Blotchy mottle



Yellow Veins



Huanglongbing (HLB), also known as Citrus Greening Disease or Yellow Shoot Disease, is a very destructive bacterial disease of citrus and citrus relatives. It is spread primarily by psyllid insect vectors and through grafting with infected budwood. HLB represents a serious threat to the citrus industry worldwide and especially in California. Three separate strains of HLB have been discovered and identified: Asian, African (South Africa) and South American (Brazil).

Symptoms include yellow shoots, leaf mottle, small upright leaves and lopsided fruits with a bitter flavor. There is no known control or cure for this disease once a tree becomes infected. Diseased trees are non-productive, have a shortened lifespan and must be removed and destroyed to prevent further spread of HLB.

This disease is spread readily by the Asian citrus psyllid (*Diaphorina citri*), which is widespread in Florida, Texas, Hawaii, Southern California and Mexico. The insect vector (both adults and nymphs) feed on the new growth flush. Orange jasmine (*Murraya paniculata*), an ornamental citrus relative, is the preferred host for the psyllid, although all Citrus species are hosts. The Asian strain of HLB was discovered for the first time in August 2005 in Florida, in Texas in February 2012 and in Southern California in March 2012. The first HLB infected citrus tree in California (a pummelo, grafted on lemon) was found in Hacienda Heights, Los Angeles County.

If you suspect you have citrus with HLB disease – based on the presence of the symptoms described or of the insect vector – please contact the California Department of Food and Agriculture at 1-800-491-1899.

# Environmental Monitoring



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To ensure protection of human health and the environment, the CDFA has contracted with DPR to oversee environmental monitoring of treatment projects.

- Sampling media include air, leaf, soil, tank, and water.
- Samples are collected before and after treatment in order to analyze the amount of product residue.



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# Survey

CDFA staff will survey the area for Asian citrus psyllid and Huanglongbing disease symptoms.



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- The surveyor will collect leaf samples from each host plant on the property and any life stages of the ACP that they find.
- Host plants include all citrus varieties and hybrids, including kumquat, mandarin, grapefruit, orange, lemon and lime; also including closely related plants like curry leaf and ornamental orange jasmine.
- All plant samples are processed and shipped to the CDFA Laboratory in Sacramento, California for analysis.
- If the sample is confirmed positive for the HLB disease, the resident will be notified.

# Treatment



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- Treatments will be made by a professional applicator and/or CDFA staff
- Only treat citrus plants and its relatives, such as murraya, curry or wampi
- Tempo: foliar treatment
- Merit: ground treatment



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# Tree Removal

- A tree that is confirmed by the CDFA lab as positive for the bacteria that causes Huanglongbing will decline in health and die.
  - It might appear healthy now, but the disease is damaging the tree's vascular system and causing the tree to starve for nutrients.
  - The diseased tree is considered a nuisance as it poses a threat to citrus trees in the surrounding community.
- There is no cure for HLB, and all confirmed positive trees must be removed.
  - CDFA will take great care with the residential property while conducting the tree removal.

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# Active Ingredients

The Asian citrus psyllid (ACP) treatment program uses products containing the active ingredients imidacloprid and beta-cyfluthrin. The products used by CDFA are the same formulation as products that can be purchased at local home and garden centers.

Imidacloprid is a systemic insecticide, in a group of chemicals called neonicotinoids. It is available in a variety of home garden use products and flea treatments for dogs and cats.

Beta-cyfluthrin is a foliar applied synthetic pyrethroid insecticide, similar to the compound produced by chrysanthemum flowers. Pyrethroids are one of the most common household insecticides used today. Beta-cyfluthrin products are used in homes, restaurants, hospitals, food processing plants and gardens.

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## From a Local Home Improvement Store

Beta-Cyfluthrin Product, Imidacloprid Product,  
Pyrethroid Product



# Biocontrol

## Biological Control Method

- Use of natural enemies to suppress and control populations of invasive pests.
- *Tamarixia radiata* was identified as an ideal biocontrol agent for Asian citrus psyllid.
- Biocontrol is part of the Integrated Pest Management plan for Asian citrus psyllid.



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Biocontrol Rearing Process



Biocontrol Releases



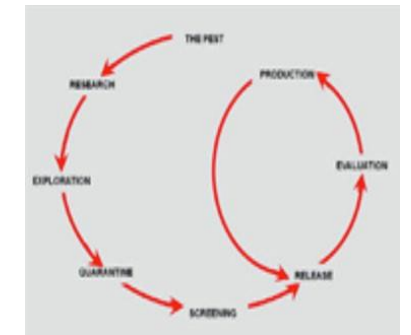
*Tamarixia radiata*



Biocontrol Rearing Facilities



Asian Citrus Psyllid



# Protecting Pollinators



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**Protecting native bees and managed hives** is an important consideration in agricultural officials' efforts to protect our food supply and environment from invasive pests like the Asian citrus psyllid.

- The program follows all pesticide labels and bee safe label language.
- Program staff actively look for foraging bees.
- Treatment activities are not conducted if bees are actively foraging on host plants to be treated.
- When bees are present the treatment will be rescheduled for a time when bees are not active, like early morning.

**PEST HOTLINE:  
1.800.491.1899**



**When bees are present, we reschedule treatment for early morning when bees are dormant.**



**More info online at  
[www.cdfa.ca.gov/plant/pollinators](http://www.cdfa.ca.gov/plant/pollinators)**



# Notifications

**PEST HOTLINE:  
1.800.491.1899**




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Properties will be notified at least 48 hours in advance with a pink notification.

Properties will receive a green reschedule notification if staff were unable to treat.

Properties will receive a yellow notification upon completion of treatment activities.

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

**OFFICIAL NOTICE**

**ADVANCE NOTICE OF INSECTICIDE TREATMENT**

The California Department of Food and Agriculture (CDFA) has detected the Asian citrus psyllid (ACP), a serious insect pest, or Huanglongbing (HLB), a deadly citrus disease, in your neighborhood. CDFA has determined that emergency treatment is needed to protect California from the negative environmental and economic impacts the establishment of this pest throughout California would cause. To prevent the spread of these pests, it will be necessary to apply the insecticides Tempo® SC Ultra (beta-cyfluthrin), a pyrethroid, and Merit® 2F or CoreTect™ (imidacloprid), to all citrus trees and host shrubs located on your property. These insecticides kill adult and/or immature ACP present on your citrus trees or host shrubs. The insecticides are applied using ground-based equipment. CDFA has selected these products for use based on their effectiveness against Asian citrus psyllid, worker and environmental safety, and California registration status.

By allowing CDFA to treat the citrus trees on your property, you will be making a huge contribution to the suppression of this invasive pest, which poses an imminent threat to California's environment and economy.

**This treatment is free of charge.**

Your property is scheduled for treatment on \_\_\_\_\_. Unfavorable weather conditions, such as rain or wind, may cause the treatment to be rescheduled.

You do not need to be present during the treatment as long as treatment staff have access to your property, including the backyard. The treatment takes only a few minutes if you take the following steps:

- Leave your gates unlocked.
- If possible, temporarily secure any pets and their food and water dishes indoors.
- Close your doors and windows. They may be opened after treatment is complete.
- Move items such as barbecues, lawn furniture, toys, etc. away from your trees and shrubs.

It is not necessary to harvest all of the citrus fruit from your trees before the treatment begins. Any fruit to be picked on or after the treatment date can be left on the tree and harvested after the area has dried.

**After the treatment is completed:**

- Avoid contact with treated area until the treated area is dry.
- Contact our project office before moving any citrus plant material from your property.

**Please visit our website to learn more about this pest <http://www.cdffa.ca.gov/phpps/acp/>**

If you have any questions or a situation that requires special attention, please call (800) 491-1899.


**Thank you for your cooperation.**


Block Number: \_\_\_\_\_ Date: \_\_\_\_\_  
(Please refer to the block number when contacting our office)

60-232 (3/14/18)

Pest Detection/Emergency Projects  
Telephone: 800.491.1899 • www.cdffa.ca.gov

State of California  
Gavin Newsom, Governor



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

**WE WERE UNABLE TO TREAT YOUR PROPERTY**

Your property was scheduled for Asian citrus psyllid treatment on \_\_\_\_\_.

We were unable to treat as planned due to the reason(s) checked below.

Your gate was locked or a dog was present. Your property has been rescheduled for treatment on \_\_\_\_\_. Please unlock your gate and/or restrain your dog on the date of your scheduled treatment.

Rain and/or wind. Your property has been rescheduled for treatment on \_\_\_\_\_.

Other. Please call our office at 800-491-1899.

Reason: \_\_\_\_\_

In order to stop the spread of the Asian citrus psyllid, it is important that all properties within the treatment area are treated with the insecticide applications in a timely manner.

**If you need to make special arrangements for this treatment, 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 <http://www.cdffa.ca.gov/phpps/acp/>

**This treatment is free of charge.**

**Thank you for your cooperation.**

BLOCK NUMBER \_\_\_\_\_ DATE \_\_\_\_\_  
(Please mention the block number when contacting our office)

60-232 (4/18)

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

**NOTICE OF INSECTICIDE TREATMENT**

The California Department of Food and Agriculture (CDFA) has detected the Asian citrus psyllid (ACP), a serious insect pest, or Huanglongbing (HLB), a deadly citrus disease, in your neighborhood.

On \_\_\_\_\_ at approximately \_\_\_\_\_ A.M. / P.M., your property was treated with the insecticide(s) checked below. By allowing CDFA to perform emergency treatment of citrus trees on your property, you have made a huge contribution to the suppression of this invasive pest, which poses an imminent threat to California's environment and economy. If you have any questions, please call the Project Office at (800) 491-1899.

**To learn more about the ACP and HLB, please visit the CDFA website: <http://www.cdffa.ca.gov/phpps/acp/>**

Tempo® SC Ultra (beta-cyfluthrin) is a formulation of a pyrethroid contact insecticide for controlling Asian citrus psyllid adults and nymphs. This material will be applied a minimum of one time to the foliage of host plants on designated residential properties.

Merit® 2F (imidacloprid, a systemic insecticide) applied to the soil of all host plants at designated residential properties. The material is taken up into the plant via the root system and provides approximately 12 months of protection against the pest, depending on the soil conditions.

CoreTect™ (imidacloprid, a systemic insecticide), tablets were applied below the soil surface of host plants at designated residential properties. The material is taken up into the plant via the root system and provides approximately 12 months of protection against the pest, depending on the soil conditions.

CDFA has selected the insecticide products above based on their effectiveness against ACP, worker and environmental safety, and California registration status.

- Once the area has dried, you may use your property as you normally would.
- To prevent the spread of this pest, please do not move plant material off your property without contacting our project office.
- For best results, please irrigate the plants that were treated within 24 hours of treatment.

If you are experiencing health problems after this application, call the California Poison Control System hotline at (800) 222-1222(voice), or consult with your physician.


**Thank you for your cooperation.**

BLOCK NUMBER \_\_\_\_\_ DATE: \_\_\_\_\_  
(Please mention the block number when contacting our office)

60-234 (3/14/18)

Pest Detection/Emergency Projects  
Telephone: 800.491.1899 • www.cdffa.ca.gov

State of California  
Gavin Newsom, Governor




# Quarantine

## What Plants are Regulated?

Asian citrus psyllid (ACP) and Huanglongbing (HLB) host plants are members of the Rutaceae family which includes all citrus as well as some ornamentals and plants grown for their leaves, such as Makrut lime and *Murraya* spp. (including curry leaf).

A quarantine has been established that includes all areas within 5 miles of each HLB positive tree. With the exception of citrus fruit that has been commercially cleaned and packed, or fruit for personal consumption that has been cleaned of all stems and leaves, ACP and HLB host plants and plant parts are regulated. Movement of regulated host material within and from a quarantine area is prohibited unless it meets regulatory requirements.

## What Can I Do to Prevent the Spread of HLB?

Do not move potted citrus plants or other host plants from your property.

Homegrown fruit for personal consumption (under 25 pounds) may be moved within the quarantine area provided *all stems and leaves are removed*. Sharing fruit is discouraged due to the possibility of ACP hitchhiking to other areas.

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## What Establishments are Regulated?

### NURSERIES

Outdoor grown and maintained citrus nursery stock within the HLB quarantine poses a tremendous threat to spreading HLB and cannot be sold. Only nurseries with a CDFA approved structure may sell citrus plants with a red HLB quarantine tag.



### GREEN WASTE

Green waste should be placed in residential yard waste bins or taken to local landfills or green waste recycling centers within the HLB quarantine area. Green waste may only be moved out of the quarantine area if compliant with quarantine requirements.



### SWAP MEETS AND FARMERS MARKETS

Fruit free from stems and leaves may be sold at swap meets and farmers markets by vendors with a compliance agreement. Mandarin fruit for sale with attached leaf and stem in the HLB quarantine requires a special permit. Nursery stock may not be sold at markets within the HLB quarantine area.



## More Quarantine Information?

Visit our website for the latest regulation information:

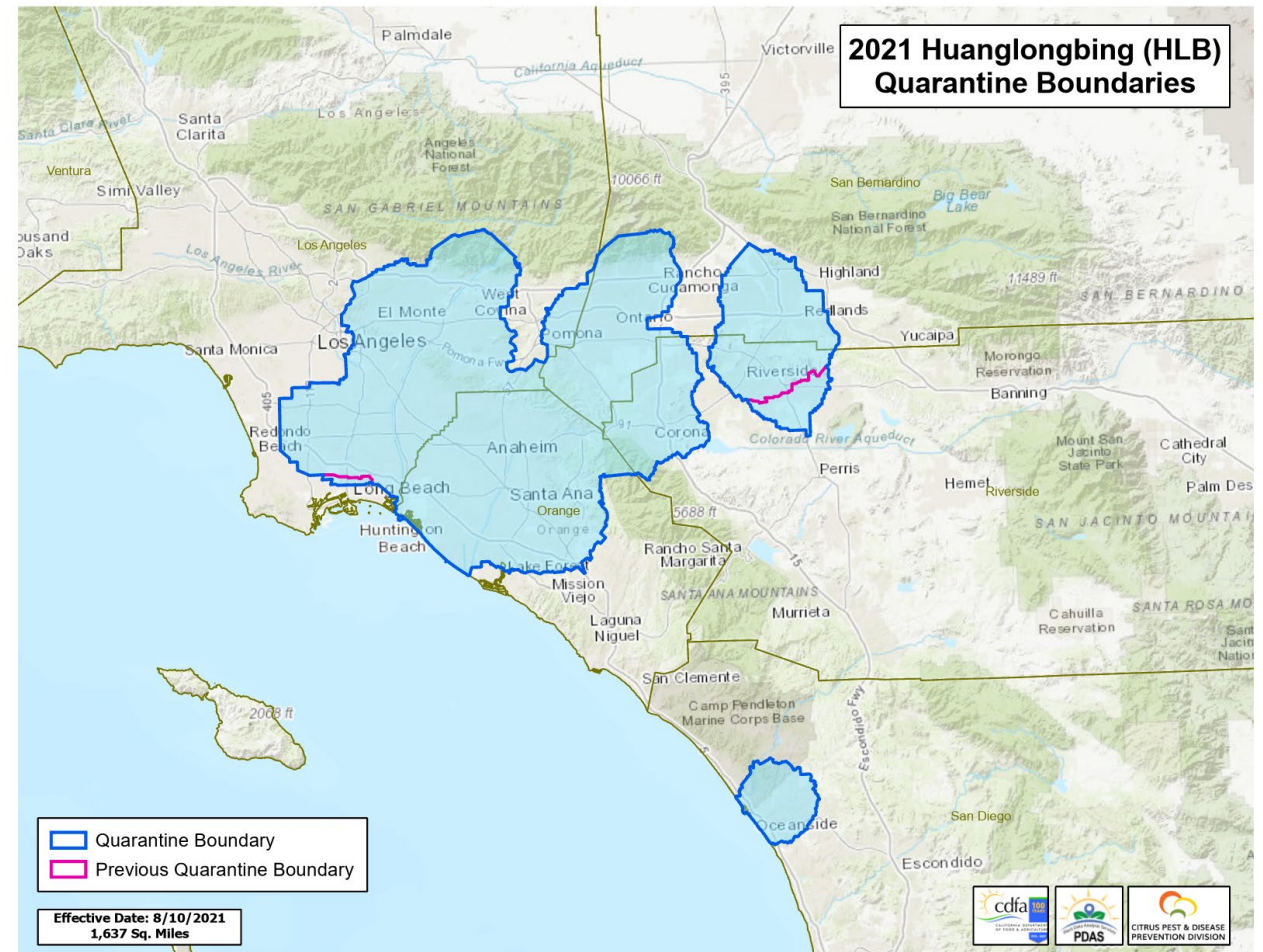
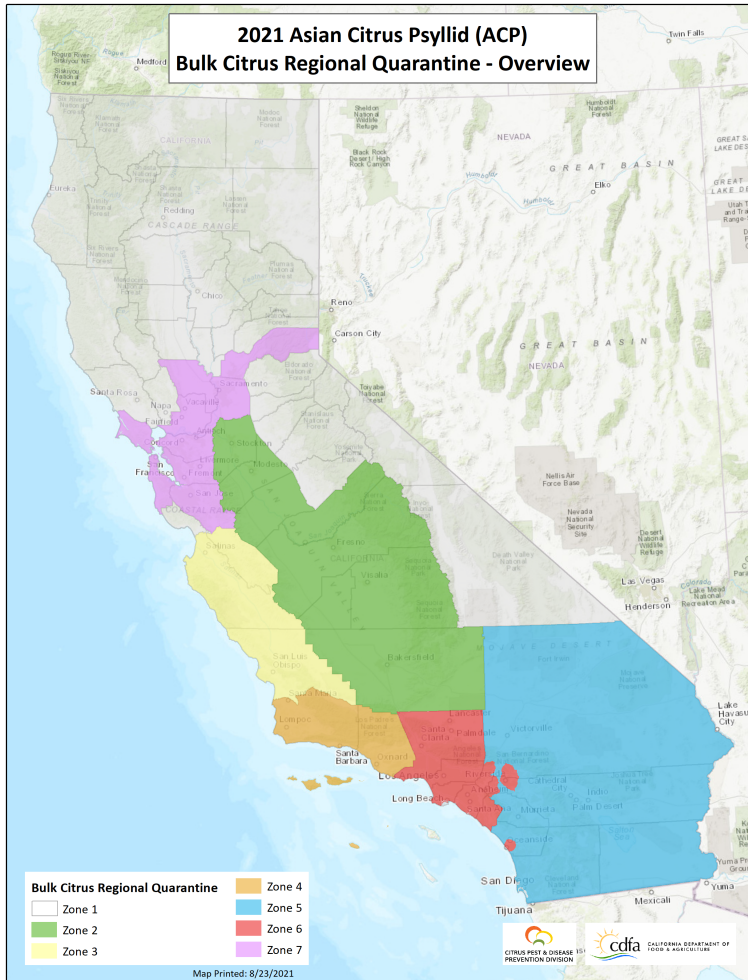
<https://www.cdfa.ca.gov/Citrus>



# Quarantine Maps



**CITRUS PEST & DISEASE PREVENTION DIVISION**  
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CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE | PUBLIC MEETING INFORMATION

# Questions?

To ask a question:

1. Raise your hand – you will be unmuted and can ask verbally.
2. Type your question into the question box.

