

I. Detection and Survey Activities for Asian Citrus Psyllid

A. Urban and Rural Residential Detection Trapping and Visual Survey

Trapping for Asian citrus psyllid (ACP) is a cooperative state/county trapping program to provide early detection of an infestation in a county. Traps are serviced by either state or county agricultural inspectors. The trap used for ACP detection is the yellow panel trap, which is a cardboard panel coated with an adhesive on each side. ACP becomes entangled on the sticky surface and cannot move off the trap. Yellow panel traps have proven successful at detecting infestations of ACP. At all locations where traps are placed, the host plant is visually inspected for ACP. If ACP is detected, the host is visually surveyed for additional ACP and symptoms of huanglongbing (HLB).

- Trap Density: Five to 16 traps/square mile.
- Trap Servicing Interval: Monthly.
- Trap Relocation and Replacement: Traps are relocated and replaced every four to eight weeks to another host with a minimum relocation distance of 500 feet.
- Visual surveys and/or tap sampling are conducted once at each trapping site when the trap is placed.

B. Commercial Grove Trapping

In counties with substantial commercial citrus production, and which are not generally infested with ACP, traps are placed within the groves at the density of one trap per 40 acres. Traps are replaced every two weeks and submitted for screening. In areas that are generally infested with ACP, agricultural inspectors visually survey commercial groves for plant tissue displaying symptoms of HLB and collect ACP which are tested for *Candidatus Liberibacter asiaticus* (CLAs), the bacteria that causes HLB.

Delimitation Trapping and Visual Survey Outside of the Generally Infested Area

The protocols below are the actions in response to the detection of ACP in counties north of Santa Barbara County and the Tehachapi Mountains.

1. Response to the Detection of One or More ACP

a. Trapping

ACP traps are placed at a density of 50 traps per square mile in a four-square mile delimitation area centered on the detection site. Traps are serviced weekly for one month. If no additional ACP are detected, the traps are serviced monthly for one year past the date the ACP was initially identified. Subsequent detections may increase the size of the delimitation survey area and restarts the one-year duration on the trap servicing requirement.

b. Visual Survey

All find sites and adjacent properties are visually surveyed for ACP and HLB. Additional sites may be surveyed as part of the risk-based survey.

II. Detection and Survey Activities for HLB

HLB Delimitation Survey

Upon confirmation of an HLB infected citrus tree (or host plant), a mandatory delimitation survey is initiated in the 250-meter radius area surrounding the detection. All host plants are visually

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surveyed for symptoms of HLB and presence of ACP. Plant and insect samples are collected from every host plant in the 250-meter area and subsequently analyzed for CLAs.

III. Treatment Activities

Treatment

The Citrus Pest and Disease Prevention Division (CPDPD) treatment activities for ACP vary throughout the state and depend on multiple factors.

Factors CPDPD considers prior to treatment include:

- Determination if suppression of ACP is feasible;
- The proximity of the ACP infestation to commercial citrus;
- Whether growers are conducting coordinated treatment activities;
- The level of HLB risk; and
- Consistency with the overall goal of protecting the state's commercial citrus production.

Scenarios Throughout the State in which Treatment Occurs:

- ACP detections in areas with commercial citrus production near previous HLB detections that are generally infested with ACP, and where all growers are treating on a coordinated schedule, CPDPD may conduct residential buffer treatments to suppress ACP populations around the commercial groves in an effort to prevent establishment of HLB.
- In areas where HLB is detected, CPDPD conducts residential treatments to suppress ACP populations.
- In areas where ACP has not been previously detected, or where ACP has been detected at low densities, CPDPD conducts residential treatments in response to ACP detections to prevent ACP establishment or suppress populations.
- In areas where ACP has been detected along the California-Mexico border, CPDPD conducts residential treatments in response to ACP detections to suppress ACP populations due to proximity of HLB detections in Mexico.

CPDPD's current policy is to not conduct treatments in areas that are generally infested if there is limited or no commercial citrus production in the area.

1. Treatment Protocols

In accordance with the integrated pest management principles, CPDPD has evaluated possible treatment methods and determined that there are no physical, cultural, or biological controls available to eliminate ACP from an area.

In general, when treatment has been deemed appropriate, CPDPD applies insecticides to host trees in the residential (urban) areas in a 50 to 800-meter radius around each detection site. Only ACP host plants are treated.

a. International Border Treatments

CPDPD treats citrus host plants in the residential area within two miles of the California-Mexico border. This treatment is conducted within a 400-meter buffer surrounding ACP detections that are within two miles of the California-Mexico border.

- A Proclamation of an Emergency Program (PEP) is issued.
- Prior to undertaking any treatment activity for a property with ACP and/or hosts infected with HLB, CPDPD will contact the affected residents directly or schedule

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a public meeting or series of public meetings to inform residents, growers, and other interested parties of CPDPD's intent to take action, and to provide technical information about products used, dates of treatment(s), etc.

b. Within a Generally Infested Area with Commercial Citrus Production

For ACP detections, CPDPD treats citrus host plants within a 250-meter buffer surrounding commercial citrus groves if the growers are conducting coordinated treatments in the designated Psyllid Management Area (PMA) and at least 90 percent of the growers have completed two out of three of the coordinated treatments. The exception is Imperial County, which has fewer residential properties, and therefore ACP detections trigger treatment of residential citrus host plants within 800 meters of commercial citrus.

- A PEP is issued.
- Prior to undertaking any treatment activity for a property with ACP and/or hosts infected with HLB, CPDPD will contact the affected residents directly or schedule a public meeting or series of public meetings to inform residents, growers, and other interested parties of CPDPD's intent to take action, and to provide technical information about products used, dates of treatment(s), etc.

c. Outside of the Generally Infested Area

The actions below are in response to the detection of one or more ACP, whether collected live or in a trap, in counties north of Santa Barbara County and the Tehachapi Mountains.

- Detection of one ACP at one site - All properties with a host within a 50-meter radius of the detection site are treated. A subsequent detection of one or more ACP within 400-meters will result in all properties with hosts within 400-meters of the detection site(s) being treated.
- Detection of two or more ACP at one site - All properties with a host within a 400-meter radius of the detection site are treated.
- A PEP is issued.
- Prior to undertaking any treatment activity for a property with ACP and/or hosts infected with HLB, CPDPD will contact the affected residents directly or schedule a public meeting or series of public meetings to inform residents, growers, and other interested parties of CPDPD's intent to take action, and to provide technical information about products used, dates of treatment(s), etc.

d. In response to an HLB Detection

- All properties with a host within a 250-meter radius of the detection site are treated.
- All host plants found to be infected with HLB are destroyed and removed by mechanical means.
- A PEP is issued.
- Prior to undertaking any treatment activity for a property with ACP and/or hosts infected with HLB, CPDPD will contact the affected residents directly or schedule

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2. Treatment Methodology

The treatment protocol consists of both a foliar and a systemic insecticide. The foliar insecticide is used for immediate reduction of the adult ACP population to prevent the adults from dispersing. The systemic insecticide is a soil treatment used to kill the sedentary nymphs and provide long term protection against reinfestation. Treatment frequency is dependent on the insecticide applied and severity of the infestation.

CPDPD uses registered pesticides and follows the label directions. The treatment protocol may be adjusted to use only the foliar or the systemic insecticide to allow for mitigations in special situations

a. Foliar Treatment

Tempo® SC Ultra (cyfluthrin) is a pyrethroid contact insecticide. Treatment initially occurs once, and subsequent applications may occur for up to three times annually if additional psyllids are detected. This material is applied to the foliage of all host plants using hydraulic spray or hand spray equipment.

b. Soil Treatment

A systemic soil application is made using either Merit® 2F or CoreTect™.

- Merit® 2F (imidacloprid), is a neonicotinoid systemic insecticide. Treatment initially occurs once, and a subsequent application may occur once on an annual basis if additional psyllids are detected. This material is applied to the soil within the root zone of host plants.
- CoreTect™ (imidacloprid) is a neonicotinoid systemic insecticide. It is used in place of Merit® 2F in situations where there are environmental concerns about soil surface runoff of the liquid Merit® 2F formulation, such as host plants growing next to ponds and other environmentally sensitive areas. This material is a pelletized tablet and is inserted into the soil and watered in within the root zone of host plants.