



Area-wide management of ACP to limit the spread of HLB in California

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<http://ucanr.edu/sites/scienceforcitrushealth/>

What is the technique?

Area-wide pest management is the coordinated application of insecticides or some other control tactic on a large scale, beyond individual properties, with the goal of suppressing a pest population. In the case of huanglongbing (HLB), area-wide management aims to reduce the population of the insect vector, the Asian Citrus Psyllid (ACP), in order to limit the transmission of the bacterium that causes HLB.

In different areas of the world where HLB is present, like Brazil, Mexico or Florida, area-wide management of ACP is considered to be a fundamental pillar to reduce psyllids and control the spread of HLB. In California, area-wide management is voluntarily undertaken by growers in Psyllid Management Areas (PMAs), or mandated by Pest Control Districts (PCDs).

PMAs are voluntary groups of 25-35 neighboring growers who coordinate insecticide applications against ACP over a short timeframe (2-3 weeks). Each PMA has a team leader who is responsible for contacting the rest of the growers when it is time to spray, following instructions from the regional grower liaisons and/or their ACP/HLB task force. PMAs have been generated for most citrus growing regions and can be viewed by clicking on the PMA layer of the ACP Distribution and Management Map (<http://ucanr.edu/acpmap>, see next page).

PCDs are special districts instated by local growers to have the legal authority to control, eradicate, or respond to the effects of pests and diseases affecting a specific crop. For citrus, PCDs currently exist in portions of Fresno, Tulare, Kern, Riverside, San Diego and Imperial counties. In most of those counties, the PCD is responsible for indicating the timing of the area-wide ACP treatments. PCDs can be viewed by clicking on the PCD layer (<http://ucanr.edu/acpmap>, see next page).

How does a coordinated effort improve HLB management?

By coordinating insecticide applications against ACP over a large area within a short timeframe, growers minimize movement of psyllids between neighboring fields or residential areas. The psyllids are very mobile and easily reinvade orchards once the insecticide breaks down. Treating over a wider area reduces reinvasion by adult psyllids, and the fewer the psyllids, the less likely they are to pick up and spread the disease.

In Southern California, where ACP is considered established and can no longer be eradicated, area-wide management is the best approach to minimize HLB transmission. Area-wide treatments are usually timed for the winter (Dec-Feb) to target the overwintering ACP population; in the spring (Feb-Mar) at the initiation of spring flush; and in the fall (Aug-Nov) to reduce the ACP population during the fall flush. Surveys of psyllids in California citrus orchards show that populations are highest in the fall and more aggressive choices and number of treatments are needed then.

In the San Joaquin Valley, where ACP is not so widely established, growers conduct voluntary coordinated treatments 800 m around the location where ACP is detected, in an attempt to locally-eradicate the population in that area. If psyllids are found on traps repeatedly in nearby 800 meter treatment areas, then growers work together to simultaneously treat a much larger area. In all areas of the state, when 90% or more growers participate in a coordinated treatment in a short time frame, the California Department of Food and Agriculture (CDFA) applies insecticides to residential citrus within 400 meters of that treatment, to reduce ACP reinfestation.

Who is working on the Project?

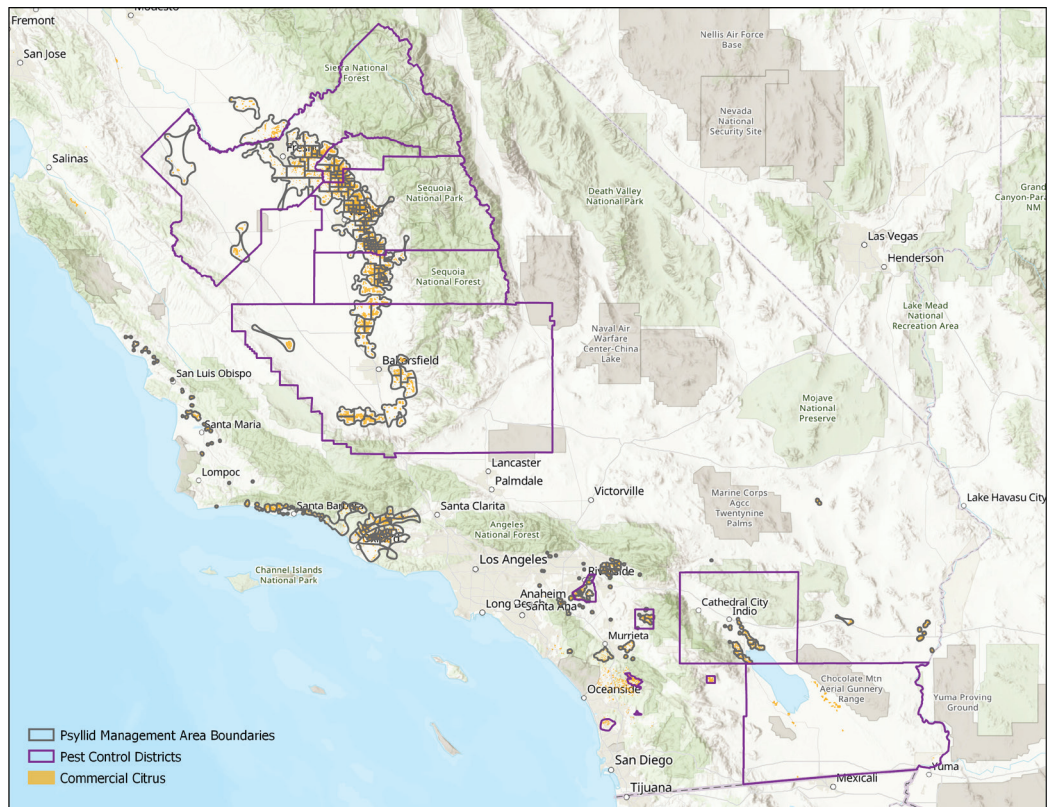
This grower-led initiative is based on neighbors helping neighbors. However, citrus growers are not alone. The Citrus Pest and Disease Prevention Program (CPDPP) has appointed grower liaisons to inform growers and pest control advisors about ACP detections and help them determine when it is time to spray. The design of the PMAs was a collaborative effort between Rick Dunn of the Citrus Research Board, citrus growers, the University of California and CDFA liaisons. The insecticide recommendations and treatment timings were developed by Dr. Beth Grafton-Cardwell. Specific ACP/HLB task forces have been created in most of the counties, and the PCDs can provide structure, recommendations, complimentary activities such as tree removal, and sometimes funding depending on their budgets. The California Citrus Mutual provides funding in some areas of the state for residential tree removal.

What are the challenges and opportunities?

The success of the area-wide management of ACP depends on the willingness to coordinate among citrus growers. Studies conducted in Florida by Dr. Ariel Singerman showed that the

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Citrus Health Management Areas (CHMAs) were not always successful because of trust issues among neighbors and lack of flexibility to spray when it is required. However, it is vital to overcome these obstacles and coordinate efforts to keep ACP populations to the minimum, even before HLB is detected, in order to limit the impact of the epidemic in California.



Current boundaries of Pest Control Districts (in purple), Pest Management Areas (in gray lines) and commercial citrus (orange). Map courtesy of Robert Johnson from UC ANR.
A larger version can be seen at <http://ucanr.edu/acpmap/>

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