

Friday May 1, 2009
ACP Technical Working Group

Background

Currently, the Asian citrus psyllid (ACP) has been detected in California in Imperial and San Diego counties. One find near the Imperial/Riverside County border has caused the quarantine boundary to be extended into a portion of Riverside County. A technical question was posed from California to USDA-APHIS concerning lifting of the quarantine from an area if there are no further detections of ACP within 3 generations (similar to declaring eradication of fruit flies from an area after no detections based on 3 generations). A Technical Working Group was convened via teleconference to consider this question along with related concerns.

Additional details were provided to the TWG by email prior to the call. Maps detailing the location of psyllid finds, the boundaries of the quarantine area, trap locations, location of commercial citrus, citrus nurseries, and production nurseries, treatment boundaries, along with photographs from the areas of the most recent finds were shared with the group along with life cycle projections. The objective of the TWG was to produce a scientifically based response to the main question after open discussion and further information gathering had occurred. The TWG was also charged with establishing criteria for removal of an area from regulation for ACP after the psyllid has not been detected for an agreed upon period of time.

Key Questions to be Addressed:

The following questions were asked of the HLB TWG for discussion during the conference call:

Under what circumstances can an area be deregulated for Asian citrus psyllid?

The use of 3 fruit fly generations has been used for years by APHIS and state agencies to declare the eradication of tephritid fruit flies. Would 3 generations without any subsequent detection of Asian citrus psyllid be sufficient to declare an area Asian citrus psyllid-free or to remove quarantine restrictions? Why or why not? What trapping density would be required to ensure that no false negatives would occur?

If 3 generations is not sufficient, what criteria should or could be applied to declare an area eradicated or pest free?

- Have these sorts of criteria been defined for ACP, or other homopteran insects elsewhere in the U.S. or in other countries? If so, can we apply the same criteria in these cases?

Findings:

Information was provided to the TWG during the call describing a similar discussion by the California HLB Task Force which concluded that a 2-year period of time with no detections of ACP should be required for an area to declare eradication of ACP. This 2-year recommendation was chosen due to the difficulty of basing eradication of the psyllid solely on life cycle generation time. There can be long periods of time between successive generations depending on flush availability.

ACP detection relies primarily on yellow panel sticky traps without lures. These traps can be haphazard in detection reliability and population assessment due to the unknown associated 'calling' distance. In one instance 4 adult psyllids were found on a trap, while 120 psyllids were found on the associated tree. The 24-month time period would encompass at least 3 to 4 flush cycles of the most abundant host, citrus. The large land mass in Southern California also creates difficulty in providing enough confidence in detection based on non attractant trapping for detection. In Southern California, there was also the consideration of psyllid introductions across the border from Mexico providing a consistent pressure due to the 10% refusal for treatment of ACP of properties in Mexico. Due to the lack of reliable scientifically-based data, the California HLB Task Force concluded that a time period of less than 18 months (24 months was preferred) was not sufficient for declaring eradication of ACP from a quarantine area.

When ACP is found in California and within ½ mile of the site, detection relies on visual surveys, vacuum trapping and increased yellow panel sticky trap trapping, combined with insecticide treatments within 400 meters of the detection. The trapping density is increased to 100 traps/mi² in the ½ mile radius around a find site, and a trapping density of 50 traps/mi² is placed out to a radius of 1.5 miles. In the current non-commercial areas, a trap is placed within each host plant or in at least one plant in a group planting, within ½ mile of the detection after an ACP find. In commercial citrus, the normal trapping density is 5 traps/square mile.

Re-introduction of ACP into an area occurs primarily through natural spread or by anthropogenic movement of the psyllid associated with host plant materials over distances or through areas where hosts are not present or abundant. Without science-based data in California for ACP and detection, the time period for non-detection was suggested to not be less than 18 months.

Host removal to reduce the possibility of further spread north into commercial groves (or re-introduction) was discussed by the TWG in non-commercial areas as a long-term solution. Currently, there had been no ACP find in the commercial groves in the area close to the Imperial/Riverside County border. The growers in the Coachella Valley and the commercial citrus to the south have started applying imidacloprid along with other insecticide treatments. It would be useful to catalogue the treatments occurring in the commercial citrus groves at this time if no ACP detections continue to occur with psyllid pressure in the surrounding areas. It was also suggested that in the event of removal of an

area from quarantine based on non-detection for a determined period of time, the trapping densities should increase in adjacent areas.

TWG Recommendations for areas with ACP detections under quarantine

Due to a lack of direct scientific data, these recommendations are based on scientific expertise and informed opinion of these experts related to ACP.

- Treatments should be applied according to the established protocol. Areas may need to be retreated several times if additional psyllids are found.
- Eradication can be declared after no detections of ACP for a period of two years from the last find, and;
- Continue surveillance and trapping after removal of designated areas from quarantine in areas following declaration of eradication.

ACP TWG Recommendations for the Niland area with ACP detections under quarantine

Due to a lack of directly applicable scientific data, these recommendations are based on scientific expertise and informed opinion of these experts related to ACP.

- One more chemical application should be applied around find and;
- Implement an aggressive host removal in non-commercial citrus areas in a timely manner (complete removal should occur in a short time span), and;
 - Host removal should occur for all hosts within 1 km of ACP positive sites,
- Increase density of traps and visual surveys in commercial groves within the Coachella Valley by double or triple and;
- Revise quarantine boundary to reflect removal of ACP hosts;

OR

- Maintain present quarantine boundary;
- After no detections of ACP for a period of two years from the last find, eradication can be declared, and;
- After removal from quarantine of the area south of the Coachella Valley from quarantine, the trapping density should be doubled or tripled in the Coachella Valley, and;
- Continue surveillance and trapping in areas following declaration of eradication.

ACP hosts are defined as Citrus species, cultivars and hybrids, and citrus relatives in the *Rutaceae*.

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