DATOC
Data Analysis and Tactical Operations Center

Quarterly Report

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Thresholds for area-wide management

In the beginning of January, we presented the CPDPC Operations Subcommittee with an alternative strategy for scheduling area-wide residential buffer treatments. Previously, these treatments were made if 90% of the growers in an area participated in a coordinated ACP suppression effort by applying insecticides within a few weeks of each other. This strategy, while useful, created logistical difficulties in planning applications, gathering pesticide use reports (PURs), and scheduling public meetings to provide a notice of treatment. Based on historic participation levels, we suggested that residential buffer treatments be applied if growers met the 90% threshold in 2 out of the last 3 treatment cycles. This would give CDFA more time to plan the treatments, and grower liaisons more time to gather PURs. In addition, it would increase the efficacy of the buffer treatments by timing them to better coincide with commercial treatments. This recommendation was approved by the CPDPC in mid-January.

Asian citrus psyllid population trends

In late January, DATOC met to discuss an analysis of ACP populations in California, based on trapping and sampling data from CDFA and/or MAC surveys. We found that Riverside populations peak primarily late summer through mid-winter. San Bernardino populations exhibited fewer seasonal differences, and less pronounced peaks in winter and spring. Imperial's populations peak in fall and late-spring. Ventura's populations peak dramatically starting in late summer and do not begin to decline until mid-winter. San Diego's populations are high year-round.

Situational monitoring

DATOC continually monitors HLB development in Southern California. In February, we published an update to a prior analysis of the growth rate of new cases, which indicated that the growth rate has not deviated from the previously fitted model. The apparent epidemic has continued to increase linearly since mid-2017, increasing 58 times faster since before that period. We compared this to the increase in the area under quarantine, which was similarly fit by a segmented linear model. However, the current rate of increase in terms of area is only 15 times faster than during the early period. This difference reflects the detection of dense clusters of infected trees inside existing quarantine areas, and some of the increase is undoubtedly due to improvements in lab capacity, diagnostics, and increases in samples collected from areas near other HLB+ trees.

Exposure to *C*Las

The CPDPC has requested that DATOC explore the idea of what constitutes exposure to *C*Las in several different ways. In March, we presented the most recent work on this question, showing that 95% of HLB+ trees are within 240 m (about 780 ft) of another HLB+ tree, a figure which has remained fairly stable for the last year. We reported that that nearly 20% of properties neighboring an HLB+ tree are also infected, and in some cities this trend is particularly pronounced: as many as 45% of neighboring properties may be infected. In addition, having more infected trees on a single property is positively correlated with finding more infected neighboring properties. We observed that the average Ct value for all HLB+ trees has been both falling over time and decreasing more in cities with more HLB+ trees detected. This is indicative of a greater bacterial load in these trees. This report also explored progress made using Webidemics: an online platform for modelling disease spread in citrus. This model indicated that culling citrus trees in a 240 m radius around HLB+ trees would result in the shortest duration of an HLB epidemic, compared to a smaller radius.