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Thresholds for HLB vector control in infected commercial citrus and compatibility with biological control

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Control of the HLB vector, *Diaphorina citri* Kuwayama, is considered a basic component for management this disease, even in a high HLB incidence scenario. Such control is mostly chemically oriented. However, over use of insecticides would increase costs and be incompatible with biological control. Establishment of economic thresholds for psyllid control under different price scenarios could optimize returns on investment.

Two 3-year experiments are being conducted in commercial orange blocks with high HLB incidence. Experimental design is RCB with 4 treatments and 4 replicates: no insecticide, calendar applications, insecticide applications according to a threshold of 0.2 psyllids/stem tap sample, and applications according to a 0.7 threshold. Vector populations are monitored biweekly by tap sampling. Differences in vector abundance among treatments are being correlated to HLB infection levels estimated by Q-PCR and to fruit yields. Consequences of each vector control strategy on beneficial arthropod fauna are also being evaluated, as well as potential negative impacts on biological control processes in the crop. After two years, a yield increase was observed with the calendar treatment, but so far additional costs would require high juice prices scenarios. Negative impacts of calendar sprays on biological control of mites and leafminers have also been observed.