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Transmission of *Candidatus Liberibacter asiaticus* to 16 citrus cultivars by Asian citrus psyllids in a greenhouse study

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In the orchard, *Candidatus Liberibacter asiaticus* (CLAs) is transmitted to citrus hosts via the Asian citrus psyllid (ACP); however, in most greenhouse studies, CLAs inoculation of citrus has been conducted by grafting. In an attempt to more closely mimic the natural process of CLAs transmission by ACP to citrus we conducted a greenhouse study that included CLAs-infected citron (*Citrus medica*) to serve as a source of inoculum, free-ranging ACP to vector the pathogen, and 16 citrus genotypes (*C. medica*, *C. reticulata*, *C. grandis*, *C. sinensis*, *C. x paradisi*, *Poncirus trifoliata*, and nine citrus hybrids) as hosts. Our objectives were to determine the incidence of CLAs infection and titer among the 16 genotypes over time. The experiment was conducted three times. Leaf samples were collected at regular intervals over a period of ca. 300 days and each sample was assayed for the presence of CLAs. In each experiment, CLAs titer remained at less than 10^1 copies 16S rDNA g^{-1} fwt until 150 to 175 days after placing CLAs negative trees into the greenhouse, and thereafter increased steadily for the remainder of the experiments. After 300 to 350 days in the greenhouse grand means for CLAs titer ranged from 10^3 to 10^5 g^{-1} fwt, although HLB symptoms were not apparent. Significant differences in CLAs titer among the cultivars were first detected at approximately 125 days and throughout the remainder of the experiment. Our results have significant implications for studies involving transmission of CLAs by ACP and subsequent disease development.