

8.4**Citrus leaf volatiles response to '*Candidatus Liberibacter asiaticus*' and to its insect vector Asian citrus psyllid**

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Plant volatiles play an important role in defending plants against insects and pathogens attack. Released volatiles from insect-damaged plants may result in direct or indirect defense against insect, and volatile accumulation in pathogen-infected plants may inhibit the movement of the pathogens within plant tissues. However, available information about the response of citrus leaf volatiles to Asian citrus psyllids (ACP) feeding and '*Candidatus Liberibacter asiaticus*' (Clas) infection is limited. Here we investigate the effect of ACP feeding, Clas infection, and simultaneous attack by ACP and Clas on the volatile content of Valencia leaves. Leaf volatiles were extracted using hexane and analyzed with gas chromatography-mass spectrometry (GC-MS). Eighteen out of twenty-seven detected volatiles were induced (2 to 10-folds) in ACP-infested plants. On the other hand, only four volatiles were induced in Clas-infected plants (d-limonene, β -phelandrene, citronellal, and undecanal). The abundance of latter compounds was induced 4-folds in Clas-infected plants, except for limonene, which was induced more than 20-folds. In addition, citrus plants that were subjected to a simultaneous attack by ACP and Clas reduced their volatiles production compared to those that experience an attack only by ACP. Our results suggested that insect and pathogen attack not only changes the profile of plant released volatiles, but also influences the volatile contents of the attacked plants. The result of this study might contribute to better understanding of citrus response to ACP and Clas attacks and provide more information about the relation between stored and released volatiles.