Response of Diaphorina citri Kuwayama (Hemiptera:Psyllidae) to volatile emmitted from leaves of two Rutaceous plants.

Abstract

Diaphorina citri Kuwayama (Hemiptera: Psyllidae) is an important worldwide pest of citrus, because of its ability to vector the three phloem-restricted bacteria in the genus Candidatus Liberibacter, that cause citrus greening or huanglungbing. Studies were conducted to examine the effects of flush growth stage and volatile compounds emitted by two rutaceae plants on oviposition and feeding site selection of D. citri. Three methods including choice, no choice and Y tube olfactometer assays were conducted using plants with only newly expanded leaves (4-6 days old), plants with all leaves completely hardened (14-21 days old) and plants without leaves (14-21 days old). The results showed that significant number of adult D. citri were attracted to plants with newly expanded leaves for oviposition and feeding in both choice and no choice assay, and when the two plants were assayed together in Y tube, significant number of the adults select Y tube arm with Citrus suhuiensis leaves and similarly in choice assay more adults select C. suhuiensis for oviposition and feeding than Murraya paniculata. The results gave an insight into response of D. citri to different plant forms and volatiles emitted by the plant which is useful in monitoring and management of the pest.

Keyword: Huanglongbin; Citrus suhuiensis; Choice essay; Psyllids.