

Investigating the Existence of *Candidatus Liberibacter asiaticus* in *Murraya koenigii*

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In 2015 the European Union banned importing fresh curry leaves from Sri Lanka due to Citrus greening disease reported in Sri Lanka. Citrus greening is the most dangerous disease in citrus cultivation. The disease is caused by the infection of non-culturable bacteria named *Candidatus Liberibacter* (CLAs). This bacterium transferred by a vector named Asian citrus psyllid (*Diaphorina citri*). Asian citrus psyllid is one of the major pests in Curry leaves. This study was conducted to confirm the existence of *Candidatus Liberibacter* in Curry leaves by conducting a pathogenicity test to test the ability of CLAs to cause the disease. 11 Citrus plants and 11 Curry leaves plants were tested for *Candidatus Liberibacter*. The presence of CLAs in leaf samples were identified by amplification of 1160 bp fragment of 16s rRNA. 10 Curry leaves and 10 Citrus plants were placed inside of a rearing cage in the protected house. One curry leaf and one citrus plant kept outside of the cage but inside the protected house as controls. Approximately, 500 *Diaphorina citri* insects were collected from several Districts in Sri Lanka and kept in a secondary cage to facilitate the mating process for a week with one feeding plant. Insects were inserted into the main cage. After a month, all plants and some random insect samples were tested for the presence of *Candidatus Liberibacter*. Initially, all the curry leaves plants and citrus plants give negative results confirming the absence of CLAs. After a month, one citrus plant was positive for the presence of CLAs and other 9 citrus plants and curry plants produce negative results confirming the absence of CLAs. Two random *Diaphorina citri* samples were checked. One sample was positive and the other one is negative for the presence of CLAs. Results indicate that CLAs is unable to survive in curry leaves plants, but further studies should be conducted. There is a potential to export fresh curry leaves, due to the absence of CLAs in curry leaves.

Keywords: Citrus Greening, *Candidatus Liberibacter asiaticus*, *Murraya koenigii*