Investigating the Presence of *Candidatus* Liberibacter asiaticus in *Murraya koenigii* and *Citrus* spp. from Selected Areas in Sri Lanka

G.A. Wickramasinghe[1], M.H.A.D. Subhashini[2] and L.M.H.R. Alwis[1]

[1]*Department of Export Agriculture, Uva Wellassa University of Sri Lanka, Badulla, Sri Lanka*

[2]*Pathology Division, National Plant Quarantine Service, Katunayake, Sri Lanka*

Citrus Greening (CG) disease is the most detrimental bacterial disease for citrus and it is caused by *Candidatus* Liberibacter asiaticus (CLas). In Asia, CG is mainly transmitted by Asian Citrus Psyllid (ACP) which is recognized as a major pest in *Murraya koenigii* (curry leaves). This study was carried out to investigate the presence of CLas in *Murraya koenigii* and *Citrus spp.* in selected locations, where fresh curry leaves are harvested for exporting. Leaf samples of curry leaves and *Citrus spp.* were collected from Anuradhapura, Puttalam and Badulla areas. The presence of CLas was tested in twenty-seven leaf samples of each plant using DNA extraction by modified CTAB method followed by Polymerase Chain reaction (PCR). CLas presence was detected by amplification of 1160 bp fragment of 16s rRNA coding gene of CLas by using OI1 and OA1 as forward primers and OI2c as common reverse primer and by amplification of 703 bp and 669 bp fragments of rplKAJL-rpoBC operon gene of CLas using forward primer A2 and reverse primer J5. None of the curry leaf samples produced any amplicon indicating zero presence of CLas, while Citrus leaf samples produced amplicons in all three areas indicating the presence of CLas. Citrus in Anuradhapura area displayed the lowest percentage (40%) of presence, while the highest percentage (80%) was observed from Badulla area. Citrus in Puttalam area showed 53% of presence. Results indicated that, within three selected areas, CLas is totally absent in curry leaves, while CLas presence is detected in *Citrus spp*. in same fields. CG is restricted to *Citrus spp.* in Anuradhapura, Puttalam and Badulla areas and *Murraya koenigii* (curry leaves) that is host for ACP is free of CLas.

Keywords: Citrus greening, *Candidatus Liberibacter asiaticus*, *Murraya koenigii***,** Polymerase chain reaction