**BIO-EFFICACY OF *Lantana camara* LEAF EXTRACTS ON WHITE LEAF DISEASE VECTOR; *Deltocephelus menoni***

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**ABSTRACT**

Sugarcane White Leaf Disease (WLD) is a phytoplasma disease which causes severe losses to the sugar industry by reducing sugar recovery and production in Sri Lanka. WLD is secondarily transmitted by leaf hopper vector; *Deltocephalus menoni* which is the sole vector of sugarcane WLD in Sri Lanka. Therefore, this study was designed and conducted with the objective of evaluating the efficacy of *Lantana camara* (Gandapana) leaf extract on WLD vector; *Deltocephalus menoni.* Study was conducted at the research farm and the entomology laboratory of the Sugarcane Research Institute, Uda Walawa from September to November 2022. Four extractions of *L. camara* i.e., two aqueous extractions (decoction and maceration methods), ethanol and methanol extractions were considered for the study. Adult females (2 day old), 1st, 2nd and 5th level instar nymphs were used for the study and 3 month old plants of variety SL 96 128 were taken as host for the pest. Each four extraction was prepared according to 10 g/l, 15 g/l and 25 g/l concentrations for the bio-assay. The results of experiment were express that efficacy of *L. camara* extraction depends on the concentration of the extract, type of extract, life stages and time of exposure *D. menoni*. Ethanolic extract showed significant mortality on adult stage and fifth instar nymph while decoction and methanolic extracts showed higher toxicity on second and fifth instar nymph (*p* < 0.05). All extracts induce mortality of all life stages in time dependent manner. When considering the concentrations, 15 g/l and 25 g/l of ethanolic extract induce significant mortality on adults and all concentrations of methanolic extract induced significant mortality in second and fifth instar. Significant anti-feeding effect was recorded for adults by ethanolic extract and methanolic extract for second and fifth instar (*p* < 0.05). Thus, ethanolic extracts, methanolic extracts and decoction method extracts has repellent properties against *D. menoni.*

Keywords: *Deltocephalus menoni*, *Lantana camara*, plant extract, vector, White Leaf Disease (WLD)