**Bio-efficacy of *Lantana camara* Leaf Extracts on White Leaf Disease Vector; *Deltocephelus menoni***

**AMSM Sewwandika1\*, WMAUKM Wijesekara1, KMG Chanchala2**

*1Department of Export Agriculture, Faculty of Agricultural Sciences, Sabaragamuwa University of*

*Sri Lanka*

*2Sugarcane Research Institute, Uda Walawe, Sri Lanka*

*\*swarnamali.1017@gmail.com*

Sugarcane White Leaf Disease (WLD) is a phytoplasma disease that 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*. Therefore, this study was designed and conducted with the objective of evaluating the efficacy of *Lantana camara* leaf extract on WLD vector*.* Study was conducted at the entomology laboratory of the Sugarcane Research Institute, Uda Walawe from September to November 2022. Four extractions of *L. camara* leaves i.e., two aqueous extractions (decoction and maceration methods), ethanol and methanol extractions were considered for the study. Nine individuals of adult females (2 day old), 1st, 2nd and 5th level instar nymphs were used for the study and 3 months old plants of variety SL 96 128 were taken as host for the pest and plants were arranged as 2 plants/sq. feet. Each four extraction was prepared according to 10g/l, 15g/l and 25g/l concentrations. 10ml of each concentration of each treatment is sprayed for bio assay. Actara (5g/16l) and distilled water were used as positive and negative controls. 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 nymphs (*p*<0.05). All extracts induce mortality of all life stages in time dependent manner. When considering the concentrations, 15g/l and 25g/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)*