**Effect of neem** *(****Azadirachta indica)* seed and leaf extract on sap-sucking insect pests of sugarcane**

K.Y. M Somarathna 1\*, W. M. A.U. K. M. Wijesekara 1, K. M. G. Chanchala2

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

*University of Sri Lanka.*

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

[*yashodara.ma25@gmail.com*](mailto:yashodara.ma25@gmail.com)

**ABSTRACT**

Sugarcane plantation in Sri Lanka associated with more than hundred insect species including tissue borers, sucking pests and cane grubs. Sucking insect cause heavy losses in sugarcane production as a pest and as a vector of the diseases. This study was conducted to determine the effect of neem seed and leaf extract on sap-sucking insect pests in sugarcane cultivation. The study was conducted at the Research Farm and the Entomology Laboratory of the Sugarcane Research Institute, Udawalawa from August to November 2022. Sugarcane Woolly Aphid (SWA) (*Ceratovacuna lanigera*),Zehntner, Pyrilla Plant Hopper (*Pyrilla perpusilla* Walker) (PPH) andSugarcane Pink Mealy Bug (PMB) (*Saccharicoccus sacchari*) were used for the study as sucking pests of sugarcane and variety SL 96 128 was taken as the host plant for the pest. Ethanol and aqueous extracts of neem seed and leaf were prepared in 2 %, 5 % and 10 % (W/V) concentrations for the bioassay. For each pest, mortality tests were conducted to study the toxicity effect of the extracts and feeding tests were conducted to measure the anti-feeding effect by using parafilm sachet technique and erythrosine dye test. Percentage mortality for toxicity effect and amount of honey dew-stained area and number of salivary flanges on leaf for anti-feeding effect were recorded. Treatment means and control means were compared using one-way and two-way ANOVA with Tukey’s multiple mean comparison test. Effective time period for all four extractions for each pest were recorded as 72 hour period. Ethanol extract of neem seed was significant (*p* < 0.05) for SWA and PPH. The best concentration of ethanol extract of neem seed is 10% (W/V). Mortality percentage of SWA, PPH and PMB for neem seed ethanol extraction were 100 %, 76.66, % 20 % at 10 % (W/V) respectively. Any of the tested extraction was not effective over PMB.

**Key words:** *Ceratovacuna lanigera,* Neem**,** Pink Mealy Bug, Plant extract, *Pyrilla perpusilla*