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Effect of garlic (*Allium sativum* L.) water extract on the adults of black pepper lace bug, *Diconocoris distanti* Drake

M K S R D Samarasinghe^{1*} and M Dharmadasa²
Research Station, Department of Export Agriculture, Matale

Black pepper (*Piper nigrum* L.) is an important spice cultivated in the mid country of Sri Lanka. The black pepper lace bug, *Diconocoris distanti* Drake (Hemiptera: Tingidae) is a major pest of pepper which damage by sucking the sap from leaves and young spikes and cause economically important damage. The use of eco-friendly materials such as botanical insecticides emerged as a superior alternative to the synthetic insecticides. Hence, a laboratory studies were carried out in order to assess the insecticidal and antifeedant effects of several concentrations of garlic (*Allium sativum* L.) water extract against the adults of black pepper lace bug.

Water extract of garlic cloves was used at 0.5%, 1%, 2.5%, 5%, 7.5% and 10% with distilled water as the control. Ten adults of black pepper lace bug were subjected to starvation 4h and release into petri plates containing immature pepper leaf disk (diameter 6 cm) treated with each of the above concentrations of garlic water extract under laboratory condition (temperature $27\pm 1^{\circ}\text{C}$, RH $65\pm 5\%$). After 48 h, data collection on number of feeding spots was counted in all three replicates using low power microscope for feeding deterrence experiment. Higher concentration (10.0%) of extract manifested higher antifeedant activity (58.67%) and all the concentrations of extract used gave significantly different effects than the control. There was a progressive increase in the feeding deterrence value for black pepper leaves with the increase in concentration of the garlic water extract.

For bioassay experiment ten starved (4h) adults were introduced in individual petri plates containing treated immature black pepper leaves. After 48 h of feeding period dead and moribund insects were counted in all three replicates. Higher LC₅₀ value (13.43%) proved low toxicity of garlic water extract against adults of pepper lace bug.

*mksrds@yahoo.com

Tel: 066-2222822