EFFICACY OF *Derris parviflora* Benth. LEAF EXTRACT AGAINST SAP-SUCKING PESTS ON CHILLI (*Capsicum annum* L.) AS A POTENTIAL BOTANICAL PESTICIDE

N.M.U.P.R. Nawarathne[1], M.A.R.A. Mandanayake[2] and U.G.A.I. Sirisena[1]

[1]Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka.
[2]Field Crops Research and Development Institute, Mahailluppallama, Sri Lanka.

Sap-sucking pests cause severe damage to chilli (*Capsicum annum* L.) cultivations and their management highly relies on agrochemicals. Currently, the availability of agrochemicals is limited and their use causes economic and environmental problems. Therefore, sustainable and cost-effective alternative pest control methods are needed to be available for farmers. Hence, this study aimed to determine the efficacy of *Derris parviflora* leaf extract against sap-sucking pests on chilli. Five treatments including *D. parviflora* leaf extracts (T1: 20 mL $10L^{-1}$, T2: 30 mL $10L^{-1}$, T3: 40 mL $10L^{-1}$), T4: Lakgro neem™ (Azadirachtin A 7.5 g L^{-1} EC), and T5: untreated control was laid using RCBD design with three replicates. The application of treatments was commenced at two weeks after transplanting of chilli (MICH3) seedlings and repeatedly applied weekly. The effect of these treatments on thrips (*Scirtothrips dorsalis)*, mites (*Polyphagotarsonemus latus)*, whiteflies (*Bemisia tabaci)*, aphids (*Aphid gossypii)*, and natural enemy populations was recorded. Plant height, canopy diameter, and yield of the plants were also recorded. The data were analysed using ANOVA after transforming where necessary. *D. parviflora* leaf extract was confirmed to be most effective in controlling thrips and whiteflies ($p<0.05$) but for the mites and aphids there was no significant effect ($p>0.05$). *D. parviflora* leaf extracts were reported to be less hazardous to beneficial species (2.94±0.1) such as Coccinellidae spp. in compared to Lakgro neem™ (2.76±0.1). Among *D. parviflora* leaf extracts T3 was more effective than the other two followed by T2 and T1. It was also revealed that both botanical extracts and the control have non-significant effects ($p>0.05$) on plant height, canopy diameter and yield. The study concluded that the *D. parviflora* leaf extract of 40 mL $10L^{-1}$ concentration was effective on only thrips and whiteflies in chilli cultivation.

Keywords: Botanicals, Eco-friendly, Natural enemies, Sucking pests