

INVESTIGATION OF *Datura stramonium* L. PLANT LEAVES EXTRACTION IN CONTROLLING THRIPS ON *Anthurium andraeanum*

M.S.Hakmananayaka¹, H. K. L. K. Gunasekera^{1*} and A.N.Nanayakkara²

1 Department of Agricultural and Plantation Engineering, Faculty of Engineering Technology, The Open University of Sri Lanka

2 Botanic Gardens, Asgiriya, Gampaha, Sri Lanka

ABSTRACT

Anthurium andraeanum is a major cut flower species in the floriculture industry in Sri Lanka. Thrips attacks are highly affected for poor quality production of *Anthurium* in commercial cultivations. In the light of this situation, the aim of this study was to investigate the effect of different concentrations of *Datura stramonium* plant leaves, ethanol and aqueous extract on Thrips in *Anthurium* cultivation. A laboratory experiment as well as a field experiment were conducted at Botanical Garden, Gampaha. Both *In vitro* and *In vivo* experiments were conducted with ten treatments which were replicated four times. The treatments were 4%, 3%, 2% and 1% different concentrations of Ethanol and aqueous extraction of *Datura stramonium*. In laboratory experiment, the Filter paper method was used to calculate the mortality percentage of thrips. The greenhouse experiment was arranged in a Completely Randomized Design (CRD). Data assessment consisted of counting healthy leaves, attacked leaves and estimated damages caused on leaves. Among different treatments tested, the commercial chemical insecticide and the 4% concentration of *Datura stramonium* ethanol extraction were recorded the best results. Furthermore, it was noted that all the tested insecticides significantly ($p = 0.05$) reduced the thrips population and the *Datura* extraction was contributed to sustainable reduction of thrips damages on *Anthurium* plant leaves compared to the control treatment. Among different treatments tested, 4% concentration of ethanol extraction was identified as the best treatment to control about 90% of thrips attack in *Anthurium* cultivation. Therefore *Datura stramonium* leaves extraction could be considered as a potential natural insecticide in the management on thrips population on *Anthurium* instead of inorganic pesticides. This eco-friendly approach will help as an alternative solution to reduce the usage of synthetic insecticides in future.

Keywords: *Datura stramonium*, *Anthurium andraeanum*, thrips, ethanol, aqueous, extraction

1* - Corresponding Author: hkgun@ou.ac.lk