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Evaluation of fungicides and pesticides for the control of nursery pests and diseases of cinnamon (*Cinnamomum verum* Persl)

H L C Darshanee[1]* and K G G Wijesinghe[1]
Cinnamon Research Station, Department of Export Agriculture, Tihagoda, Matara[1]

Most pests and diseases are economically damaged at nursery stage in cinnamon plants due to high density of plants and also high level of humidity prevailing in cinnamon fields. Main objectives of this experiment were to identify the most sever pests and diseases in cinnamon nursery, as well as their time of infection and to study the most suitable insecticides and fungicides for controlling there pests and diseases. Experiment was conducted at the cinnamon research station during the first six months

period of year 2006 and the experiment was repeated for another six months to obtain more accurate results. Five fungicides, Folicur (Tebuconasol), Tilt (Propiconasol), Shakthi (Hexaconasol),Copper based Champion and Bavistin (Carbendasim) with four insecticides Perfecthion (Dimethoate), Cyrun (Chlorpyrifos), Admire (Imidacloprid) and Rejent (Phenyl phyrasol) were used in this study. Poly bags were arranged into three replicates consisting 16 poly bags in each plot. Five plants were maintained in each poly bag and treatments were applied once per two weeks interval. Plant height, Number of leaves per plant, severity of leaf diseases, different kind of insect damages were recorded biweekly and calculated as an average per month. According to the experimental results, most sever disease in cinnamon nursery plants was leaf blight, while most severe pest attacks were leaf minor, mite leaf galls (lower leaf galls), leaf eating caterpillar and thrips damages. Up to one month from seed germination, leaf minor damage was significantly sever than the other pest damages. Among the five fungicides, leaf blight disease was significantly reduced by hexaconasol, tebuconasol and propiconasol. But tebuconasol and propiconasol were badly affected the plant height, as well as number of leaves per plant. Lower leaf gall damage was significantly reduced by dimethoate and chlorpyrifos. Leaf eating caterpillars' damage was significantly minimized by chlorpyrifos than the other insecticides. After considering collected results and environment impact, hexaconasol can be considered as the most suitable fungicide for control of leaf blight disease. Leaf galls, thrips damage and leaf minor damage can be minimized by using domethoate. Chlorpyrifos is suitable for controlling leaf eating caterpillar damage.

*cinnamon@srilanka.lk Tel: 041-2226864