Evaluation of Neem Seed and Tobacco Leaf Extracts Against Cinnamon Nursery Thrips (*Helionothrips annosus* Wang)

Cinnamon (*Cinnamoum ceylanicum*), Lauraceae plants in seedling stage is affected by Cinnamon thrips (*Helionothrips annosus*) causing a significant economic losses, and growth retardation. Currently, insecticides are sprayed to manage the thrips population and this practice leads to severe environmental and health issues; hence, alternate control strategies are needed. This study was conducted with the objecvtive of evaluating neem seed and tobacco leaf extracts against cinnamon nursay thrips by determining effective and optimum concentrations of plant extractions to manage thrips. Ground neem seeds (50 g) and tobacco leaves (62.5 g) were separately dissolved in 1 liter of water and kept overnight and filtered through a muslin cloth and obtained two original extracts. Three concentrations (50 g/l, 25 g/l, and 12.5 g/l) of neem seed extract , tobacco (62.5 g/l, 31.25 g/l, and 15.625 g/l) extract, distilled water (negative control) and ABBA Abamectin recommended concentration (positive control) were used as the treatments. Cinnamon leaves were treated (100 ml) with prepared three different concentrations of treatments separately. Treated leaves were kept in each Petri plate and 10 thrips were released to each Petri plate. After 24 hours of introduction, the highest average mortality percentage (93.33 %) was observed in 50 g/l concentration of neem seed extract under in vitro conditions (p-value < 0.05). Fifty percent average mortality was observed in 62.5 g/l concentration of tobacco extract under in-vitro conditions. Therefore, 50 g/l concentration of neem seed extract was effective against the H. annosus population under in-vitro conditions. Further studies are needed to evaluate efficacy of selected plant extracts against thrips in field conditions.