

Efficacy of Different Insecticides and Bio-Rationals Against Papaya Mealybug, *Paracoccus marginatus* (Hemiptera: Pseudococcidae) Infestation in Home Gardens

Piragalathan. A., Pakeerathan. K., Thirukkumaran. G., Mikunthan. G.

Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna, Sri Lanka

Abstract

Papaw mealybug, *Paracoccus marginatus* causes severe economic losses in crops mainly in papaw, *Carica papaya* due to its damage following symptoms such as yellowing, crinckling distortion of leaves and sooty mould development. Yield loss was resulted due to its heavy feeding. Ten chemicals such as Imidachloprid, Acetamipride, Acephate, Thiomethoxam, Chloran Traniliprole, Profenofos, Abamactin, Diazinon and Thiocyclin Hydrogen Oxalate in recommended levels, six bio-rationales such as Neem leaves fermented solution (1 g/ml), Neem leaf extract (20 g/ml), *Pavetta* leaf extract (20 g/ml), Garlic extract (20 g/ml), Vermi wash and Cow urine (100% V/V) were tested for their efficacy in laboratory. Mortality of *P. marginatus* was assessed after 0.5, 3, 6, 24 and 48 h of exposure. All the experiments designed according to complete randomized design (CRD). Highest percentage of mortality (100 %) obtained using Imidachloprid, Thiomethoxam and Thiocyclin Hydrogen Oxalate in recommended levels. Garlic bulb extract (20 g/ml), *Pavetta* leaf extract (20 g/ml) and fermented cow urine (100% V/V) given higher suppressive effect among the six bio-rationals. Garlic bulb extract, *Pavetta* leaf extract and fermented cow urine given 87.9 %, 83.3 %, 75.8 % mortality in *P. marginatus* after 48 h of exposure. LD value of garlic bulb extract, *Pavetta* leaf extract and 50 d cow urine solution against *P. marginatus* were 7.18 g/ml, 7.6 g/ml and 40.62 % (V/V) respectively on 72 h of exposure.