

**Efficacy of different bio-rationals against Papaya mealybug *Paracoccus marginatus*  
(Hemiptera: Pseudococcidae)**

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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 and distortion of leaves, sooty mould development were found and yield losses was resulted due to its heavy feeding. Considering the seriousness of the damage and safety of the environment, six bio-rationales such as fermented neem leaves solution (1 g/ml), neem leaf extract (20g/ml), *Pavetta* leaf extract (20g/ml), garlic extract (20g/ml), vermi wash and fermented cow urine (100% V/V) were tested for their efficacy on *P. marginatus* in the laboratory. These bio-rationales were applied by using hand sprayer on the *P. marginatus* infested fruits. Mortality percentage of *P. marginatus* was assessed after 0.5 hr, 3 hr, 6 hr, 24 hr and 48 hr of exposure. The experiment was carried out at a temperature of  $28\pm 1^{\circ}\text{C}$  and 75% Relative humidity and it was designed according to complete randomized design (CRD) with four replicates. Garlic bulb extract, *Pavetta* leaf extract and fermented cow urine suppressed significantly the highest effect among the six bio-rationals. Garlic bulb extract, *Pavetta* leaf extract and fermented cow urine gave 87.9%, 83.3%, 75.8% mortality of *P. marginatus*, respectively after 48 hours of exposure. All six bio-rationals had given more than 50% control in 48 hours of exposure and provided eco-friendly management against *P. marginatus*. This information is useful to manage the papaw mealy bug using eco-friendly manner.