INSECT POWDER AS CULTURE MEDIA OF LOCAL ISOLATE SEMARANG ENTOMOPATHOGENIC NEMATODES

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Abstract: Many researchersconfirmed that entomopathogenic nematodes (EPNs) of the genera *Steinernema* can be cultivated in vitro using artificial media that containing animal nutrition. This research aims to analyze the population of EPNs isolate of Semarang cultivated in insect powder media. Two kinds of culture media, cricket powder (*Gryllusbimaculatus*) and mealworm powder (*Tenebriomolitor*). The second factor is the dose of powder (0.5, 1, 1.5, and 2 g). Each treatment combination was replicated five times, each investing 1000 IJ at the first breeding. The EPNs productivity was calculated from the number of populations that could be achieved every week for 4 weeks. The population data was then analyzed by ANAVA, followed by the Tukey's test. The results showed that Semarang isolate EPNs able to reproduce in powder media of cricket and mealworm. The result of variance analysis showed that media difference had no significant effect on EPNs population, but the dose of powder influenced significantly ($\alpha < 0.05$). The Tukey's test for second week EPNs population showed no difference between control media, 0.5 g powder media and 1.0 g powder media, while at doses of 1.5 and 2 g are significantly different. This study concluded that cricket powder and mealworm powder are effective as EPNs culture medium replacing in vivo method. The optimum doses in this study were 0.5 g insect powder and harvesting is suggested to be conducted during the second week to obtain maximum population of EPNs. This result can be an alternative to mass cultivation of EPNs, in effort of development of local bioinsecticides.

Keywords: culture media, insect powder, *Gryllusbimaculatus*, Semarang isolate EPNs, *Tenebriomolitor*.