Development of Lady Beetle Cultivation for Pest Control

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The objective of this research was to examine the feasibility of using lady beetles for pest control. The exploration showed that there were 2 groups of lady beetles, i.e. pest lady beetles and beneficial lady beetles. The latter group, which can control insect pests, included M. sexmaculatus, Micraspis discolor Fabricius and other lady beetles. M. sexmaculatus contained the greatest capability to attack aphids. The investigation of the biology and behavior of M. sexmaculatus showed that it had an average of 57 days per one life cycle with 4 growth stages. The average egg laying was 28.40±1.14 eggs per time, the percentages of incubation and survival from larvae to adult were 58.39±1.25 and 56.76±1.49, respectively. To prevent the females from eating eggs, male pheromones was used as lure in raising M. sexmaculatus which could be prepared from a male fecal solution mixed with male footprints. Phenacoccus manihoti was fed to larvae at 0.3 grams per week to prevent eating among the larvae. The designing of a prototype house for culturing M. sexmaculatus showed that a prototype house made of transparent material with egg tray inside and raised at 25 ° C, 75% relative humidity at the density of 0.009 larvae/cm3 resulted in higher egg laying (107.14%), hatching (32.76%), and larvae survival (77.78%). Finally, the release of M. sexmaculatus in agricultural fields claimed that it could control many types of aphid pests.

Awards Won:
Fourth Award of $500