

Green Lacewing, *Apertochrysa* sp. (Neuroptera: Chrysopidae) for insect pest control



- A discovery of a new species of green lacewing (Chrysopidae) i.e. *Apertochrysa* sp. in the agricultural ecosystem.
- A simple rearing technique of *Apertochrysa* sp. for mass rearing has been established in the laboratory.
- Efficient predator (both immature and adult) in controlling eggs and soft body insect pests as well as small caterpillars.
- Tested to be tolerance against selected common insecticides used for insect control.

- The newly discovered green lacewing can be used as a biological control agent.
- A survey in UPM farms indicated that eggs are commonly found on citrus plants (4 eggs/plant), chilly pepper, water melons and cucumbers (0.25 egg/plant).
- The development when cultured on frozen eggs of *Cocyrta cephalonica* at 25°C in days: egg = 4, larva = 11, pupa = 14, a total of 29 days with survival rate of 52%. This could be used for mass rearing.
- The life table indicates high mortality at the egg stage (44.3%) with mean generation time of 40.6 days, net reproduction rate of 2.3 and doubling time of 14.8 days. The life span of the adult is ca 60 days.



Benefits

- The development time of *Apertochrysa* sp. using different preys in days: *Rapalosiphum maidis* = 25, *Aleurodicus disperses* = 23, *Aleurodicus woglumi* = 30 and *Corcyra cephalonica* = 26 with survival rate of 73%, 100%, 71% and 69% respectively.
- The larval stage consumed 110 nymphs of *R. maidis* with an average of 14.3 nymphs/day.
- Following treatment with insecticides (carbaryl, cypermethrin, imidacloprid and azadirachtin) on eggs exhibited a slightly harmful result while on 3rd nymphal instar was categorized as harmless.
- Larvae of green lacewing have voracious appetites and consume vast quantities of eggs and soft body insects such as aphids, mealybugs, spider mites, leafhopper nymphs, scales, thrips and whiteflies.
- The lacewing larvae also attack eggs of most pests.

Cost

- Utilization of the natural enemy with multiple hosts
- Sustainable plant protection agents with prolonged pest control
- No adverse effect to the environment
- Easy to apply
- Economic viability

Potential Consumers

LOCAL MARKET

- Creation of local industry: to supply the green lacewing
- Domestic uses: green house, protected agriculture
- Plantation/farms: field crops and citrus farms
- Regional market distributors and retailers

GLOBAL MARKET

- Market distributors and retailers



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