



SURVIVAL OF *Chrysoperla externa* HAGEN, 1861 (NEUROPTERA: CHRYSOPIDAE) AS A FUNCTION OF FOOD QUANTITY

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ABSTRACT

Chrysoperla externa is a cannibalistic predator, whose survival is affected in laboratory breeding. In this study, the impact of cannibalism on the rearing of this predator in the laboratory, at Embrapa Cotton, at $25.0 \pm 2.0^\circ\text{C}$, $70.0 \pm 5.0\%$ RH and 12h photophase was evaluated. Thirty adult insects were reared in a PVC cage (20cm x 20cm) on a diet (brewer's yeast, honey and distilled water) in a ratio of 1:1:10. With hatching, larvae of *C.* were fed *Corcyra cephalonica* eggs, randomly distributed in tubes (4.0cm x 7.5cm). The treatments (T) were established according to the number of predator and host eggs in g, which was supplied/tube at hatching and five days after: T1-Control: 1.0; 0.04 to 0.08g; T2: 5.0; 0.04 to 0.08g and; T3: 5.0; 0.08 to 0.017g. Viability (%) (embryonic-larval and egg-emergence periods; pre-pupal; pupal) and number (pupae; emerged individuals; predate cocoons)/tube were analyzed. The analyses related to numbers compared only T2 and T3. The design was completely randomized, with three treatments and 30 replications. The data were submitted to analysis of variance ($P \leq 0.05$) and the means were compared by Tukey's test ($P \leq 0.05$). The embryonic-larval period obtained the highest viability (V%) in the control (T1=70.00), being higher than T2 (34.00) and T3 (50.67) ($F=10.74^{**}$). The pre-pupal V% was the same for all treatments (100.00). The amount of food affected the survival of the larvae (T2=1.70; T3=2.63) ($F=22.10^{**}$). The pupal V% did not differ between T1 (86.67); T2 (77.22) and T3 (76.67) ($F=0.08\text{NS}$). The amount of food did not interfere with the amount of cocoons preyed on (T2=0.40; T3=0.66) ($F=1.78\text{NS}$). The number of individuals emerged at T3 (1.93) was higher than at T2 (1.23) ($F=15.63^{**}$). The V% egg-emergence period of the adult at T1 (86.67) was higher than T2 (24.67%) and T3 (38.67%) ($F=28.06^{**}$). The amount of food affected the survival of the larvae, especially when in competition for the host.

Keywords: Biological control. Viability. Predator.

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