

Life table studies of *Helicoverpa gelotopoeon* (Dyar) (Lepidoptera: Noctuidae) under controlled conditions

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Helicoverpa gelotopoeon is a polyphagous pest endemic of South America that affects soybean and other economically important crops. Life tables are an important tool for understanding insect population dynamics and to produce basic knowledge for additional studies. Therefore, the aim of this study was to evaluate the biotic potential and the construction of a life table of this species reared in artificial diet at laboratory conditions. The net reproductive rate (R_0) was 95.49. Because this value was greater than 1.0, the population of *H. gelotopoeon* under laboratory conditions increased in size. The mean generation time (T) was 37.53, and the instantaneous rate of population increase " r " 0.12. The population doubling time (DT) was 5.70 days, and the daily finite rate of increase (λ) 1.13. The maximum rate of population growth occurred in the day 33. Fecundity had two peaks: at days 35 and 37 of *H. gelotopoeon* life cycle. Gross and net fecundity rate, and the average number of eggs laid per female per day were 565.87, 496.07, and 18.76 respectively. The biotic potential was 2.026×10^{18} individuals/female/year. Considering the survival analysis, out of the 241 eggs reared on artificial diet, only 123 individuals (51.04%) completed their larval stage and survived to the pupal stage. Among those 123 individuals, 98 (40%) reached the adult stage. The survivorship curve showed that mortality was high during incubation period and first larval instars, then it declined slowly until the death of last adult. In general, the survival fraction was lower in earlier instars as compared to the later instars, suggesting that the probability of dying was higher in early ages. These results provide important information to develop management strategies of *H. gelotopoeon* in South America.

Palavras-chave: life cycle; population parameters; South American bollworm

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