عنوان مقاله:

Successive rearing on Sitotroga cerealella Affects Quality of the Parasitoid Wasp Trichogramma embryophagum ((Hymenoptera: Trichogrammatidae

محل انتشار:

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خلاصه مقاله:

Demographic parameters of the parasitoid wasp Trichogramma embryophagum Hartig reared on Sitotroga cerealella (Olivier) were determined for ۴۰ generations (G۵-G۴۰). The experiments were done in a growth chamber at ۲۶±۲°C, ۶۵±۵% RH and photoperiod of ۱۶:۸ h (L:D). The results showed that the female longevity decreased significantly during successive production, ranging from ۱۰.۶۸ (in G۵) to ۹.۶۴ days (in G۴۰). On the other hand, the male longevity decreased significantly in the ۲۰th generation and no significant difference was found from G۲۰ to G۴۰. The oviposition days and mean total fecundity of T. embryophagum decreased as the number of generations increased. Generally, the wasps in earlier generations had longer adult longevity, longer life span, and higher fecundity than later generations. Moreover, sex ratio of T. embryophagum was not significantly different in successive generations. Results of paired bootstrap test indicated that all population growth parameters of T. embryophagum reared on S. cereallela were significantly different in successive generations. The highest and lowest values of the intrinsic rate of increase (r), finite rate of increase (λ), net Reproductive rate (R۰), Gross Reproductive Rate (GRR) and mean generation Time (T) of T. embryophagum were observed in G۴۰ and G۵, respectively. These results suggest that T. embryophagum wasps reared in sequential generations can be used successfully in biological control programs until the ۲۰th generation without any loss of quality or performance; after that, regular rejuvenation of laboratory population by occasional importing of field-collected parasitoids should be done.

کلمات کلیدی:

Different generations, Life table, Population growth parameters, Quality control, Rejuvenating population, Trichogramma.