عنوان مقاله:

How Different Populations and Host Plant Cultivars Affect Two-Sex Life Table Parameters of the Date Palm Hopper, (Ommatissus lybicus (Hemiptera: Tropiduchidae

محل انتشار:

مجله علوم و فناوری کشاورزی, دوره 18, شماره 6 (سال: 1395)

تعداد صفحات اصل مقاله: 15

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خلاصه مقاله:

Worldwide distribution of the Date Palm Hopper (DPH), Ommatissus lybicus de Bergevin along with intensive regional chemical and cultural practices to control this pest provide a basis for development of high genetic divergence. This genetic divergence can result in demographically distinct populations. In this study, the demographic parameters of three genetically diverged Iranian populations of DPH (Bam, Jiroft, and Tezerj) were determined on two date palm cultivars (Berhi and Khunizi). The age-stage, two-sex life table theory was used to unveil biological differences among these populations. All experiments were carried out in a laboratory at ۲۷±۲˚C, ۶۵±۵% RH, and a photoperiod of ۱۴:۱۰ (L: D) hour. The results revealed significant differences in life history traits and growth parameters of different populations. The shortest development time was observed in the Bam population (۷۵.۸۶ and ۸۵.۰۳ days on Berhi and Khunizi, respectively). The highest values of the intrinsic rate of increase (r) and finite rate of increase (λ) were detected in Bam population (۰.۰۳۷۷ and ۱.۰۴۳۳ per day on Berhi as well as ۰.۰۲۸۴ and ۱.۰۲۸۸ per day on Khunizi, respectively). Based on these results, we can consider Bam as an aggressive population with higher infestation rate compared with the other populations due to its higher r and λ values as well as shorter mean generation time on both host cultivars. The significant differences in life history traits and variation in population growth parameters may suggest the presence of cryptic species among these populations. It can stem from the high genetic divergence .among DPH populations which may be orchestrated by mismanagement of the pest

کلمات کلیدی:

Berhi date, Demographic parameters, Dubas bug, Khunizi date, Insect population growth