

Investigation on the reasons of food preference of red palm weevil, *Rhynchophorus ferrugineus* (Oliv.)

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ABSTRACT

Red palm weevil (RPW), *Rhynchophorus ferrugineus* Oliv., is a destructive pest of different palms in Asia, North Africa and South Europe. At present time, it is an internal quarantined pest in Iran which damage on date palm is limited to Saravan region (Sistan & Balouchistan province). Based on accomplished investigation, Mazafati date palms were the most desirable host for RPW.

Several experiments were carried out on the food preference of RPW on 5 date palm varieties including Mazafati, Rabbi, Halileh, Zardan, Pimazoo and a native wild palm (*Nannorrhops ritchiana* (Griff) Aitch.), during 1999-2001.

Based on the laboratory studies, larval mortality maximum and minimum were in Zardan and Halileh, respectively. The highest pupal mortality was recorded 100%, which found in wild palm. The maximum and minimum of adult emergence were observed for Mazafati and wild palm respectively. The life span of RPW was maximum in Zardan and minimum in Mazafati. The highest and lowest daily oviposition were observed in Mazafati and Zardan respectively.

To determine the reasons of food preference of RPW, vascular tissues of different varieties of date palms and wild palm were analysed and dry weight, crude fibre, total sugar, fat and 12 chemical elements were measured. The stepwise multiple regression analysis shows that, the interaction of various nutrient components affects the vital qualifications of RPW. The most effective nutrients and element were found sugar and calcium. Sugar was correlated with growth and daily oviposition and reduction in mortality, while increasing of calcium clearly inhibited RPW growth.

Key words: *Rhynchophorus ferrugineus*, Food preference, Date palm

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