

**SAFE AND EFFECTIVE CONTROL OF CERTAIN
DATE FRUIT INSECT PESTS AT EL- BAHARIA
OASES – GIZA – EGYPT**

By

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ABSTRACT

Eight experiments were carried out during three successive seasons; 2018, 2019 and 2020 in three regions in Bahariya Oases , Giza , Egypt ,to identify a biological control strategy for the major lepidopterous date palm fruit insect pests. The first study aimed to estimate the seasonal fluctuation of the important insect pests using light traps. Three experiments were conducted to assess the efficiency of the egg parasitoids *Trichogramma evanescens* as a biological agent for controlling Major date Palm fruit insects in the field, dryer and stored date. The fifth experiment was carried out in the field to evaluate the susceptibility of three date palm cultivars to certain date palm fruit pests infestation. The sextet experiment was performed to evaluate the effect of planting density date palm trees on population numbers and infestation rate of three fruit date palm pests. The seventh one was design to evaluate the covering dates fruit bunches on the infestation rate by date palm fruits pests. The eighth experiment was designed to test the shade dryer performance compared with the traditional open sun dryer on the infestation rate of date palm fruit pests. In all three seasons, the number of all these insects increased gradually from the beginning of January till fruiting period (end of July). The lowest infestation rate was recorded for the Farihy by the rate of 12%, 15% and 21%, during the three studies seasons respectively. The high infestation rate was recorded for the Siwi cultivar by rate of 33%, 28% and 36% respectively. The high population numbers of the *A. sabella*, *B. amydraula* and *Ephestia* sp were recorded in the high plantation density trees farms compared with the lowest one. The Results showed that using the *Trichogramma* parasite as biological agent reduced the infestation rate by date palm fruit pests in the field , dryer and date storage to 2.4 % , 4.2 % and 5.13 % , respectably. Also, the covering dates fruit bunches reduced the infestation rate from 12.9 % to 4.5% in the field. The infestation rate was reduced to 5.8% by using the shade dryer compared to 13.2 % in the traditional one.

Key words: date palm fruit pests, *Trichogramma evanescens*, dryer, date storage .

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