ABSTRACT

Studies on the seasonal abundance of *Parlatoria oleae* were carried out in Ismailia governorate, starting Oct., 1998 to Sept. 2000 on Egazy, Tophahy, Manzanillo and Picual olive varieties. Samples were picked up at two-week intervals from cardinal directions of each selected tree of studied varieties. Sample size was 5 cm terminal branch of 5-7 mm in diameter. Each sample was replicated four times.All alive insect stages on each sample were recorded.

Population per sample on the Picual variety was significantly higher than other ones (i.e. mean mixed population of 20.76 and 33.32 insects/sample over 1998/1999 and 1999/2000 seasons, respectively). Tophahy variety harboured 15.90 and 33.60 insects/sample, respectively. Egazy variety was 19.26 and 13.67 insects/sample, respectively, while, Manzanillo variety showed the lowest population (i.e. 5.14 and 4.34 individuals/sample over the two years, respectively).

The trend of each stage percent proportion fluctuation seemed to be the same regardless the studied variety over the same year, indicating three generations per year for *P. oleae* on olive. Spring generation started Feb. 12, 99 up till June 4, 99, Summer generation continued till August 13, 99 and Fall-Winter generation continued through winter ending Feb.25, 2000 (i.e. 112 days for Spring generation compared with 70 days for Summer one and 196days for Fall-Winter generation). similar results were obtained over the second year of study. Correlation between weather factors (i.e. max. and min. temperatures, % RH and wind velocity) and *P. oleae* dynamics did not indicate any clear relation.

The minimal threshold was considered as 10°C while the cut off degree as 27°C for calculations of degree-days (DDs). For the Spring generation over 1999 growing season the total (DDs) was estimated to be 1153 units compared with 1196 for the Summer one. Over growing season of 2000 the estimated DDs for the Spring generation was 1277 compared with 1223 for the summer generation.

Population per sample in the east direction of the olive trees were significantly higher than other ones (i.e. average population of 24.25 and 29.80 individuals/sample over 1998/1999 and 1999/2000, respectively. The south direction came next as 14.80 and 24.34 individuals/sample over the two years, respectively. The third category was occupied by north as 12.37 and 16.49 individuals/sample, respectively. The west direction of the olive tree had significantly the lowest population over the study (i.e. 9.61 and 14.25 individuals/sample, respectively).

Three periods was recommended for controlling this insect. The first period is during April. The second one during the second week of June to the end of June and the third is during October as post harvest application.

Aphytis maculicornis (Masi) (Hymenoptera : Aphelinidae) was the main natural enemy with low occurance over the two years. Maximum numbers per sample ranged between 5.93 and 1.43 parasitoid stage/sample, occurring on April 2 to April 16, 1999.

Chemical control studies were carried out at the same area, during the year 2000 using Sumithion 50% EC, Admiral 10% EC , Super Masrona , Admiral + oil , Jojoba extract and Jojoba oil (Acarol).

Obtained results from the conducted experiment revealed that oil alone or mixed with other materials held superior category all over the time specially after three months of application. Admiral seemed to be more efficient during Summer time than Spring.

Key Words: Olive, Scale insects, Control, New reclaimed area.

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