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Comparison of biological aspects of safflower capsule fly, *Acanthiophilus helianthi* Rossi, 1794 (Diptera: Tephritidae) on safflower cultivars under laboratory conditions

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The safflower capsule fly, *Acanthiophilus helianthi* Rossi, 1794 (Diptera: Tephritidae) is an important pest of safflower, *Carthamus tinctorius* L. Life cycle of this pest was surveyed on five cultivars of safflower under laboratory conditions at temperature $27 \pm 2^\circ \text{C}$, $70 \pm 5\% \text{RH}$ and 16 L : 8 D.

The results indicated that there is not any significant difference on the total developmental time of immature stages of safflower fly reared on five safflower cultivars. However, developmental time of larvae on two cultivars ('Sina' and 'Padideh') showed significant difference with those fed on 'Sogol', 'Semirom' and 'Lenjan'. The generation times estimated on 'Lenjan', 'Semirom', 'Sina', 'Sogol' and 'Padideh' were 88.19 ± 3.22 , 86.51 ± 3.76 , 81.69 ± 1.90 , 79.81 ± 1.35 and 77.51 ± 1.79 days respectively. The mean preoviposition period of the fly was 5.38 ± 0.42 days and the mean time for the female to mate once again was 8.02 ± 0.56 days. The female oviposition rate was affected by safflower cultivars. The mean number of the eggs laid by each female on safflower bolls varieties of 'Padideh', 'Sina', 'Sogol', 'Semirom' and 'Lenjan' was obtained 315 ± 57.5 , 229 ± 15.56 , 196.65 ± 33.27 , 178.14 ± 28.6 and 85.18 ± 39.32 , correspondingly. The mean longevity of the non-feeding male and female flies was estimated 2.38 ± 0.2 and 2.98 ± 0.19 days and it was 69.58 ± 5.99 and 78.12 ± 5.11 days for well-fed male and female flies with honey and water, respectively. The mean longevity of the well-fed male and female flies decreased to 47.29 ± 2.32 and 55.4 ± 3.12 days, respectively; as they had matting activity and safflower heads were presented to them for female oviposition.

Key words: *Carthamus tinctorius*, pest life cycle, cultivar influence

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