



Utilization of certain plant extracts and entomopathogenic fungi for controlling the black fig fly, *Lonchaea aristella* on fig trees.

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Abstract: Impact of plant extracts viz: *Centaureum spicatum*; *Prunus laurocerasus*; *Pyracantha coccinea*; *Sorbus aucuparia* as well as entomopathogenic fungi viz: *Beauveria bassiana*; *Metarhizium anisopliae* and *Verticillium lecanii* as insecticide alternatives against the black fig fly, *Lonchaea aristella* Becker (Diptera: Lonchaeidae) was determined in both laboratory and field experiments. It can be concluded that treatments with plant extracts and entomopathogenic fungi have significant effect on the biology of this pest. Generally increased concentration decreased adult emergence; fecundity and egg hatchability percentage. *C. spicatum* 4% extracts has a highly significant affected on the duration of larval stage development then afterwards *P. laurocerasus*; *P. coccinea* and entomopathogenic fungi *B. bassiana*. Conventional chemical insecticides are usually sprayed against fig insect pest. So, heavy and frequent insecticide applications are needed for their control. This can lead to problems of toxic residues and pollution of the environment. Therefore, the present work aimed to avoid the overuse and misuse of conventional chemical insecticides as well as to investigate some save alternatives such as natural plant extracts and entomopathogenic fungi to reduce the level of *L. aristella* infestation in fig orchards consequently, increase the monetary value of yield. This may offer a reliable role in exploring integrated pest control programme in fig orchards.

Keywords: Plant extracts, entomopathogenic fungi, the black fig fly, fig orchards.

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