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**Virulence of *beauveria bassiana iran*  $\xi \xi 1c$  on some life stages of onion thrips and its compatibility with several common insecticides and fungicides under laboratory conditions**

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## Abstract

The onion thrips, is one of the major economically pests of onion, throughout the world. It is present in most onion growing areas in Iran and whenever control measures were not done, the losses will be very high. Because of the problems associated with pesticides uses, which currently are the most common control methods of this pest, the need for alternative methods or reduction in pesticide doses combined with other control measures especially biological control is necessary. In this study toxicity of two chemical insecticides including WG 0.1%, SP0.1% on 2nd instar larvae of onion thrips was assessed. Moreover, pathogenicity of indigenous isolate of *Beauveria bassiana* was investigated against 2nd larval instars. The dipping method were used in all bioassay tests. The control insects were treated using sterile distilled water containing 0.1% Tween – 80. The LC<sub>50</sub> values for WG 0.1%, SP0.1% and *B. bassiana* were 2.3 mg/l, 4.3 mg/l and 0.4\*10<sup>6</sup> per ml, respectively. Also, compatibility of these entomopathogenic fungi with four conventional insecticides and synergistic effects of their combinations were evaluated under laboratory conditions. The results of the effects of insecticides on spore germination and mycelia growth of tested fungi showed that 0.2, 0.5 %WP and WDG 0.2/0.5% were completely inhibited spore germination and mycelial growth, and they were classified as incompatible. WG 0.1% has no effects on spore germination and or mycelial growth of fungi and was classified as compatible. When this insecticide was combined in 1.2 mg/l with spore suspensions (6\*10<sup>6</sup> per L) of fungi, synergistic effects were seen against 2nd instar larvae of onion thrips, so this combination could be used as an alternative in IPM programs.

**Key words:** Pesticide, Onion thrips, Compatibility, Biological control, *Beauveria bassiana*.