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Pathogenicity of the Entomopathogenic Fungus *Lecanicillium muscarium* to Adults of the Mediterranean Fruit Fly *Ceratitis capitata*

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Abstract

As an alternative to chemical control or as part of IPM programs, there is a resurgence of interest in the use of microbial insecticides for biological control of insect pests. Effects of the entomopathogenic fungus *Lecanicillium muscarium* on the adults of the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae), were determined in laboratory tests.

Flies were obtained from infested guava fruit, collected by the seaside in Syria in September 2006. Fruits were placed on tubs of moist soil. Larvae dropped into the soil and pupated. 25 Pupae per replicate were spread uniformly on the bottom of soil in plastic containers and covered with 2–3 cm layer of moist soil. After that, fungal spores (8.84×106, 8.84×105 and 8.84×104 spores cm^{-2}) were applied to soil surface using a dash bottle. The emerging adults were exposed to fungal spores on the surface of the soil. Adults were collected every 24 h until the end of emergence than transferred to cages with water and food and incubated at 20°C. There were four replicates for each variants and the untreated control.

The results were:

1. Dead pupae were not infected by *L. muscarium*.
2. There was no effect of *L. muscarium* on adult emergence.
3. But 64.7 % to 78.1 % of emerging adults were infected.
4. Most infected flies died 2 to 6 days after emergence.
5. The dead adults were mouldy with typical white mycelium of *L. muscarium*.

This study indicate that *L. muscarium* can cause mortality of adult stage of *C. capitata* under laboratory conditions.

Keywords: *Ceratitis capitata*, *Lecanicillium muscarium*, mediterranean fruit fly, mortality

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