مجموعه مقالات

سومین همایش ملی کنترل بیولوژیک در کشاورزی و منابع طبیعی

۱۳ و ۱۴ بهمن ۱۳۹۴

دانشگاه فردوسی مشهد

مکان: دانشکده کشاورزی دانشگاه فردوسی مشهد

تهیه و تدوین: جواد کریمی
عضو هیات علمی دانشگاه فردوسی مشهد
Influence of sublethal concentrations of the entomopathogenic fungus, *Lecanicillium longisporum* on the development, reproduction and life table parameters of the barley aphid, *Sipha maydis*

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In the last decades, biological control including the use of entomopathogenic fungi has been an emerging strategy to control aphids, to substitute or complement traditional chemical control programs. Sublethal effects of the fungi may have similar results of normal death of targets. Sublethal effects of entomopathogenic fungus, *Lecanicillium longisporum* on development, reproduction and life table parameters of the barley aphid, *Sipha maydis* were studied on wheat under laboratory conditions. The conidia suspension of the fungus (10^7 and 10^8 conidia ml^-1 equivalent to LC5 and LC20, respectively) was applied onto first instar nymphs. The results indicated that sublethal concentrations of *L. longisporum* significantly affected the development, reproduction and life table parameters of the aphid. The fungal treatment significantly reduced nymphal period, life span and fecundity of the aphid in comparison with control. The lowest concentration, 10^7 conidia ml^-1 significantly reduced r_m of the aphid in comparison with control. It was concluded that the least concentration affects population of barley aphid by reducing life span and fecundity. The result is important in term of influence of the entomopathogens on the developmental period and reproduction of an insect pest to develop a successful biological control programs.

**Keywords**: Entomopathogenic fungus, Barley aphid, Sublethal effects, Life table