

## Abstract

The Cotton aphid (*Aphis gossypii*) is one of the most important greenhouse pest in Sistan region. Because of the tropical and subtropical climate of this region the Cotton aphid damages the products of this region seriously. Because of frequently use of insecticide like Organo chlorine, Organophosphat, Carbamate and artificial pyrityois , the mechanism of persistence of pests has been progressed. E.g. nontoxic insecticide with highest sterase strength. And also microbial agent in the density model is developed by effect of chemical on human health and environment. The pathogenic fungi as potential natural enemies in control pests are important. In this study , the effect of fungi LRC190 from *Lecanicillium lecanii* and TC11 from *Beauveria bassiana* as biological control agent on development stage of adult aphid *Aphis gossypii* have been investigated by laboratory condition with  $23\pm 1$  centigrade temperature , relative humidity  $65\pm 5$  percent and photoperiod of 16 hours light and 8 hours of darkness. So sensitivity of insect to fungi was investigated by scattering pollution. The effective of density of  $10^4, 10^5, 10^6, 10^7, 10^8$  of fungi`s spore in ml with (presence of distilled water with Tween 20 percent) with four repetition for each density was calculated. also the mortality for both pathogenic fungus during 10 days was calculated. During the investigation, the lowest mortality were in *Lecanicillium lecanii* and *beauveria bassiana* and it is related to density of  $10^4$  spore at the rate of 23/63 and 20 percent and the highest mortality is related to  $10^8$  density in ml at the rate of 92/69 and 81/81 and the calculated rate of  $LC_{50}$  for both fungus were  $6.2\times 10^5$  and  $1.29\times 10^6$ , respectively. The increase of mortality has direct relationship with aphid`s population. Based on the result of biometric we can conclude the application of pathogenic fungus of insects *Lecancillium lecanii* and *beauveria bassiana* have positive effect on control of considered pest in Sistan region.

Key Word; bioassay, biological control, The Cotton aphid, *Beauveria bassania*, *lecancillum Lecanii*



**University of Zabol**

Graduate school

Faculty of Agriculture

Department of Plant protection

Thesis Submitted in Partial Fulfillment of the Requirement for the degree of Master of Science (M. Sc) in  
Entomology

**Title**

Effects of *Lecanicillium lecanii* and *Beauveria bassiana* to  
*Aphis gossypii* (Hom.: Aphididae) in Sistan

**Supervisors:**

Dr. A. Mokhtari

**Advisors**

Dr. A. Mirshekar

Dr. S.K. Sabagh

**By**

M. H. Rasouli pour

Septembre 2014