Appl. Ent. Phytopath.
Vol. 75, No. 1, Sep. 2007

Comparison of the virulence of some isolates of *Beauveria bassiana* on adult sunn pests and the effect of plant oils on conidial germination of the most virulent one

J. RASTEGAR[1]*, M. GHAZAVI[2], K. KAMALI[3] and J. ERSHAD[2]

1- Islamic Azad University of Tehran

2- Iranian Research Institute of Plant Protection, Tehran

3- Tarbiat Modares University, Tehran

ABSTRACT

Using Sunn pest as target insect the LC_{50} and LT_{50} of eight different Iranian and imported isolates of *Beauveria bassiana* have evaluated under laboratory condition. The lowest LC_{50} and LT_{50} values were observed in isolate DEBI002 being 3.78×10^{3} spores/ml. and 8.55 days respectively showing among tested isolates the latter is the most virulent one. Five different plant oils were used to evaluate the viability of the spores of selected isolate during storage. Among the oils tested the palm oil showed to be the most and Sesame oil the least suitable carriers for *B. bassiana* aerial conidia.

Key words: *Beauveria bassiana*, Bioassay, *Eurygaster integriceps*, Plant oils, conidial viability.

* Corresponding author: Jinoosrastegar@yahoo.com

References

ABBOTT, W. S. 1925. A method for computing the effectivenes of an insecticide. *Journal of Economic Entomology* 18(1): 265-267.

ANONYMOUS, 2002. Icarda Annual Report. Theme 2. Production Systems Management. Integrated Pest Management in Cereal -and Legume- Based Cropping Systems in Dry Areas. file:// Annual Report 2002. htm.

BATEMAN, R. P., M. CAREY, D. MOORE and C. PRIOR, 1993. The enhanced infectivity of *Metarhizium flavoviride* in oil formulations to desert locusts at low humidities. Ann. Appl. Biol. 122: 145-152.

BUTT, T. M. and M. S. GOETTEL, 2000. Bioassay of Entomogenous fungi In: NOVON, A. and K. R. S. ASCHER. (eds.), *Bioassay of entomopathogenic microbes and Nematodes*. CAB International Wallingford, UK, pp. 141-195.

CONSOLO, V. F., G. L. SALERNO and C. M. BERON, 2003. Pathogenicity, formulation and storage of insect pathogenic hyphomycetous fungi tested against *Diabrotica speciosa*. Bio Control 48: 705-712, 2003.

GHAZAVI, M. 2002. Determination of the Iranian isolates of *Beauveria bassiana* and studying their effects on *Locusta migratoria*. Ph.D. thesis (in Persian with English summary).

HAJI ALLAHVERDI POUR, H. 2005. Comparison the virulence of Iranian Isolates of *Beauveria bassiana* on *Eurygaster integriceps* and study the optimum conditions for mass production of the selected Isolate. M.Sc. thesis (in Persian with English summary).

IGNOFFO, C. M. and D. L. HOSTETTER, 1977. Summary of Environmental stability of microbial insecticide. *Miscellaneus publication of Entomological Society of America*. 10: 117-119.

KASSA, A. 2003. Development and testing of mycoinsecticides based on subimerged spores and aerial conidia of the entomopathogenic fungi *Beauveria bassiana* and *Metarhizium anisopliae* (Deuteromycotina: Hyphomycetes) for control of locusts, grasshoppers and storage pests. Ph.D Thesis.Chap.4. Zugl.: Gottingen, Univ., Diss.

LOMER, C. H. and C. J. LOMER, 1999. Formulation And Aplication Of Mycopathogenes. *In*: LOMER, C. H. and C. J. LOMER, (eds). Insect Pathology Manual. secIV. http://www. lobilosa. org. pp. 1-45.

MOORE, D., S. EDGINGTON, H. KUTUK, H. SATAR and M. EL BOUHSSINI, 2004. The development of a mycoinsecticide for the biological control of sunn pest.

Proceedings of Second International conference on Sunn Pest, Aleppo, Syria.

PARKER, B. L., M. SKINNER, S. D. COSTA, S. GOILI, W. REID and M. EL BOUHSSINI, 2003. Entomopathogenic fungi of *Eurygaster integriceps* Puton (Hemiptera: Scutelleridae): collection and characterization for development. Biological Control, Elsevier Science, USA, 27: 260-272.

SKROBEK, A. 2001. Investigations on the effect of entomopathogenic fungi on Whiteflies. Ph.D. Dessertation, Department for Plant Diseasees Rhein. Friedrich-Wilhelms-Universitate, Bonn.

Address of the authors: Dr. J. RASTEGAR, Poonak, Hesarak, Science and Research Branch, Islamic Azad University, Department of Entomology, P. O. Box 14155/775, Tehran, Iran; Dr. K. KAMALI, Tarbiat Modares University, Tehran, Iran; Dr. M. GHAZAVI and Dr. J. Ershad, Iranian Research Institute of Plant Protection, P. O. Box 1454, Tehran 19395, Iran.