Pak. J. Nematol., 26 (1): 69-82, 2008

EFFICACY OF ENTOMOPATHOGENIC BACTERIUM *PHOTORHABDUS LUMINESCENS* AND ITS METABOLITESAGAINST DIAMONDBACK MOTH*PLUTELLA XYLOSTELLA*LARVAE ON CHINESE CABBAGE AND ARTIFICIAL DIET

A.N. MAHAR, N.D. JAN, A.Q. MAHAR*, G.M. MAHAR*, M.H. HULLIO* AND A.G. LANJAR*

*Department of Agriculture, University of Reading, Reading RG6 6AT, UK *Sindh Agriculture University, Tando Jam, Sindh, Pakistan* Corresponding author's E-mail: anmahar4@yahoo.co.uk

Abstract

Cell suspensions of *Photorhabdus luminescens* and solutions containing its metabolites were applied in artificial diet and foliage to control larvae of diamondback moth *Plutella xylostella.* Bacterial cells and the metabolites of entomopathogenic bacterium *P. luminescens*were isolated from *Heterorhabditis bacteriophora.* Their effectiveness was compared to the larvae fed on Chinese cabbage leaves and artificial diet. All treatments were found effective but bacterial cells suspended in broth were slightly more lethal to DBM larvae. All different DBM instars were susceptible to lethal effects of bacterium and its metabolites. Higher mortality of insect larvae was found in artificial diet than on Chinese cabbage leaves. Cells of *P. luminescens* and their metabolites were less effective on dried leaves and dried artificial diet as compared to moist leaves and moist artificial diet. Stored metabolites were also found more effective when mixed in artificial diet than moist leaf foliage. These results suggest that DBM larvae can be controlled with bacterial cells or their metabolites.