

BIOLOGICAL CONTROL OF DIAMONDBACK MOTH *PLUTELLA* *XYLOSTELLA*(EPIDOPTERA: YPONOMEUTIDAE) WITH BACTERIA FROM ENTOMOPATHOGENIC NEMATODES

A.N. MAHAR, S.A. ELAWAD, S.R. GOWEN, N.G.M. HAGUE AND M. MUNIR*

Department of Agriculture, University of Reading, Reading RG6 6AT, UK.

**Faculty of Agriculture, Gomal University, D.I. Khan, Pakistan.*

Abstract

The bacteria *Pseudomonas putida* and *Xenorhabdus nematophila*, isolated from the entomopathogenic nematodes viz., *Steinernema abbasi* and *S. carpocapsae*, respectively were applied as aqueous broth suspensions of cells and their metabolites to control the larvae of diamondback moth, *Plutella xylostella*. *Xenorhabdus nematophila* penetrated into the haemocoel within 15 minutes of their application on leaves of Chinese cabbage, indicating that the cells are free-living and motile and can penetrate into the insects in the absence of nematode vector. Cell-free solutions containing the metabolites were as effective as broth suspensions of cell of *X. nematophila* or solutions containing its toxic metabolites into the leaves of the host plant represents a possible new strategy for controlling insect pests on foliage.