RESEARCH PAPER

Asian Journal of Bio Science Vol. 6 Issue 2 (Oct., 2011) : 238-240

Compatibility of *Trichoderma* Isolates to Selected Insecticides *in vitro*

M. RANGANATHSWAMY[1], A.K. PATIBANDA[2], G. S.CHANDRASHEKAR[3], S.B. MALLESH[4], D. SANDEEP[5] AND H.B. HALESH KUMAR[6]

[1]Department of plant pathology, college of Agriculture, University of Agricultural Science, DHARWAD (KARNATAKA) INDIA

[2]Department of Plant Pathology, College of Agriculture, BAPATLA (KARNATAKA) INDIA

[3]Department of Agicultural Entomology, College of Agriculture, University of Agricultural Science, DHARWAD (KARNATAKA) INDIA

[4]Department of Plant Pathology, College of Agriculture, BHEEMARAYANAGUDI (KARNATAKA) INDIA

[5&6]Department of Seed Science and Technology College of Agriculture, University of Agricultural Science, DHARWAD (KARNATAKA) INDIA

E-mail: rangu.math@gmail.com

(**Received:** Jul., 2011; **Revised:** Aug., 2011; **Accepted :** Sep., 2011)

Eleven selected insecticides were evaluated for their compatibility to *Trichoderma* based on *in vitro* sensitivity of *T. harzianum* and *T. virens*. Observations on radial growth indicated that, chlorpyriphos and quinalphos were incompatible with *Trichoderma* spp showing 100 per cent inhibition of radial growth at field concentration. While dimethoate and endosulfan were least compatible showing more than 70 per cent inhibition of radial growth. Indoxacarb, carbofuran, fipronil were moderately compatible with radial growth inhibition in the range of 3-11per cent. Spinosad, emamectin benzoate, thiamethoxam and indoxacarb were found highly compatible with zero inhibition of radial growth of test *Trichoderma* isolates.

Key words : Insecticides, Compatibility, *Trichoderma*

Ranganathswamy, M., Patibanda, A.K., Chandrashekar,G.S., Mallesh, S.B., Sandeep, D., Halesh Kumar H. B.(2011). Compatibility of *Trichoderma* Isolates to Selected Insecticides *in vitro*. *Asian J. Bio. Sci.*, **6** (2) : 238-240.

INTRODUCTION

Soil borne plant pathogenic fungi such as *Fusarium, Phytophthora, Pythium, Rhizoctonia, Sclerotium etc.* cause diseases in most of the economically important crop plants. Chemical means of managing the diseases caused by these pathogens are not practicable owing to high cost of chemicals and environmental pollution. Biological control offers a novel approach when applied either alone or in combination with other management practices without the demerits of chemical control (Papavizas, 1985 and Mukhopadhyay, 1987). *Trichoderma* is one of the most common soil inhabitants and extensively studied biocontrol agent in the management of soil borne plant pathogens (Elad *et al.,* 1980).

Species of *Trichoderma* are being used either as seed treatment or soil application. In both the cases, the antagonist has been continuously exposed to different insecticides applied to the field either in soil or as foliar sprays. Insecticides sprayed aerially reaches the soil (by means of air currents or are washed off the plant surface due to rain) and is likely to influence the efficacy of native or applied biocontrol agents like *Trichoderma*. Hence, it is necessary to assess *Trichoderma* compatibility to insecticides in order to use in the integrated disease management systems.Variations in tolerance of *Trichoderma* isolates to several insecticides reported earlier (Sushir and Pandey 2001; Reshmy Vijayaraghavan and Koshy Abraham, 2004) were based on arbitrary concentrations that were less than the field concentrations. Hence, the present investigation was conducted to evaluate the compatibility of two isolates of *Trichoderma* spp. *viz.,T. harzianum* (isolated from cotton cropping system) and *T. virens* (isolated from citrus orchard) to selected insecticides at field concentration.

RESEARCH METHODOLOGY

In the present investigation eleven insecticides *viz.,* endosulfan, chlorpyriphos, quinalphos, dimethoate,