Effect of Insecticides on Bio-Agent *Trichoderma harzianum rifai* Under *In vitro* Condition

Thiruchchelvan. N., Mikunthan. G., Thirukkumaran. G., Pakeerathan. K.
Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna, Sri Lanka

Abstract

Potential bio-agent *Trichoderma* spp. is used to control soil borne plant diseases. Mode of actions of *Trichoderama* is antibiosis, parasitism and competition. Even though, Commercial formulations of *Trichoderma* are not working properly because of malpractices implemented in the fields. Over usage of chemical pesticides affects the growth and efficacy of bio agent *Trichoderma*. Therefore, *in-vitro* study aimed to assess the compatibility of heavily spraying insecticides in Jaffna, Sri Lanka, with *Trichoderma harzianum* by using Poison food technique. Six insecticides, Admire (Imidachlorprid), Asie (Acephate 75% w/w), Mospilan (Acetamiprid 20% w/w SP), Actara 25 V.G (Thiamethoxam (25%) SP), Selecron (Profenofos 500g/L EC) and Coragen (Chlorantraniliprole) were evaluated at the recommended dose. Results revealed that three insecticides viz Chlorantraniliprole (85 mm MCD), Acetamiprid 20 % w/w (85 mm MCD) and Imidachloprid (85 mm MCD) compatible to growth of *T. harzianum* and higher inhibition percentage was measured against profenofos 500g/L EC as 59.29 % with 34.60 mm mean colony diameter. Thiamethoxam (25 %) SP and Acephate 75 % w/w SP were also inhibited as 03.82 % (81.75 mm MCD) and 02.41 % (82.95 mm MCD) respectively but, compare to profenofos, insignificant. *Trichoderma* is compatible to most of the chemicals therefore; commercial farmers can use it in the Integrated Disease management to safe guard the environment, reduce the human health hazards and also cut down the unwanted pesticide cost.