

Research Article**Influence of Abiotic Factors on the Bio-control Efficacy of *Trichoderma* against *Fusarium proliferatum* under *In Vitro*****Geetika and Mushtaq Ahmed**

Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, TAB Shahpur- 176 206, Kangra (HP), India; Email: mushtaq.cuhp@gmail.com

Abstract

To increase the productivity of the crop plants farmers often use fertilizers, manure, mineral additives etc. But only increasing the fertility of soil is not the only sole parameter to increase the productivity. Biotic stress *i.e.* phytopathogens, are also major concern in crop health and yield. To reduce the harm caused by these pathogens, various systemic and translaminar fungicides and pesticides are commonly used in agriculture. However, chemicals are not eco-friendly. The beneficial antagonistic soil microbes such as *Pseudomonas* and *Trichoderma* spp serve as a safe alternative to the chemicals. The species of the fungus, *Trichoderma* are well known biocontrol agents (BCA) against various soil borne pathogens such as *Fusarium* spp, *Botrytis*, *Phythium* and *Rhizoctonia*. Interaction of various minerals, salts, metals, cations etc. in the soil affect the antagonistic behavior of the BCAs. In this study, effect of physical parameters (temperature, pH and different salts) on *Trichoderma* spp. were studied for its inhibitory effect against the wilt pathogen *Fusarium proliferatum* on tomato under *in vitro*. It was found that under *in vitro*, antagonistic activity of *Trichoderma* spp against *F. proliferatum* changes with varied physical parameters.

Key words: Bio-control activity, *F. proliferatum*, physical parameters, *Trichoderma*

Citation: Geetika and Ahmed M. 2018. Influence of abiotic factors on the bio-control efficacy of *Trichoderma* against *Fusarium proliferatum* under *in vitro*. *J Mycol Pl Pathol* 48(3):348-356.