

Response of *Trichoderma* spp. against *Fusarium oxysporum* f.sp. *tracheiphilum* in cowpea

S.P. Singh, Manu Priya and N. Swathikrishnan

Received November 22, 2017 and Accepted February 23, 2018

ABSTRACT : *Trichoderma* spp. is a naturally occurring filamentous fungus that act as biocontrol agent which solubilizes the mineral nutrients and increase availability and uptake of nutrient to the plant. *Fusarium* is a major problem causing wilt in cowpea crop and response to this reduce nutrient uptake. The aim of this study was to evaluate the effect of *Trichoderma* spp. on management of *Fusarium* spp. in the cowpea plants. 4 efficient *Trichoderma* spp. isolates (MPT-14, MPT-24, MPT-25&MPT-26) used for treatment of cowpea plant along with the tested pathogen. The different treated plants were evaluated for different biochemical substances like total phenol content (TPC), Phenylalanine Ammonia Lyase (PAL), Peroxidase (PO) etc. produced and accumulated in the plants at different time intervals (30 DAS, 45 DAS, and 60 DAS). The PO was recorded in highest amount in MPT-24 and MPT-14 as compared to tested pathogen (2.798 change O.D./min/g FW). In TPC, MPT-24(1028.50 µg GAE/g FW) and MPT-14(1021.17 µg GAE/g FW) showed higher than that of tested pathogen (436.67 µg GAE/g FW) at 60 DAS. The PAL activity was high in all *Trichoderma* treated plants like MPT-14 and MPT-24 than pathogen treated plants. By comparing the test results MPT-14 and MPT-24 were very efficient bioagents and plant growth promoting agents.

Key Words: Cowpea, *Trichoderma* spp., *Fusarium oxysporum* f.sp. *tracheiphilum*, PAL, peroxidase.