**Evolution of disease and potential biocontrol activity of Trichoderma sp. against Rhizoctonia solani on potato**


ABSTRACT

Black scurf and stem canker disease cause by the fungal pathogen of Rhizoctonia solani and it is an economical important disease of potatoes in Bangladesh and throughout the world. This study evaluated the black scurf and stem canker disease development in potato and antagonistic activity of Trichoderma spp. against R. solani. The artificial infections were carried out using the inoculums of R. solani. The treatments (%inoculum) were: T1 (0% inoculum), T2 (5% inoculum), T3 (10% inoculum), T4 (20% inoculum), T5 (50% inoculum), and T6 (100% inoculum). The infection of stem canker and black scurf on progeny tubers increased with increase in inoculum levels. The highest disease incidence and severity was found in T6 (100% inocula). T6 showed the maximum black scurf infected tubers (russet, deformed and sclerotia). The lowest germination percentage, plant height and tuber yield were also obtained in the same treatment (100% inocula). Trichoderma spp reduced the growth of R. solani and the highest growth suppression was noted in isolate TM12. According to antagonistic activity, Trichoderma spp. reduced the growth of R. solani but was not able to stop the pathogen development. This finding showed management of this disease or R. solani invasion requires an integrated approach compared to Trichoderma single approach.



**Keyword:** Black scurf; Potato; Rhizoctonia solani; Trichoderma spp; Stem canker