

## **Effect of *Trichoderma harzianum* on nutritional quality and antioxidant activity of tomato**

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**ABSTRACT :** Tomato is an important vegetable crop with good nutritional quality and antioxidant activity. Pests and diseases and pesticides too reduced their nutritional quality. For this we used *Trichoderma harzianum* isolates BHU51 and BHU105 and their consortium for study of nutritional quality of tomato fruits, in which plants treated with *T. harzianum* isolates and challenged with soil-borne pathogen *Sclerotium rolfsii*. Biochemical analysis have been done for measurement of total phenol content (TPC), lycopene, protein, vitamin C content etc. and antioxidant activity such as 1,1-diphenyl -2-picryl-hydrazyl (DPPH) and hydroxyl radical scavenging activity, iron chelation capacity and reducing power of tomato fruit extract. Consortium of the *Trichoderma* isolates showed the highest TPC (2.072 mgGAEg<sup>-1</sup>dw), lycopene (20.136 mg/kg fw) content, followed by individual *Trichoderma* treatments while the lowest was recorded in the pathogen inoculated control. Antioxidant activity DPPH (51.04%), hydroxyl radical scavenging activity (45.48%) and ferrous ion chelating activity (51.84%) also recorded highest in the consortium of *Trichoderma* treatments followed by individual *Trichoderma* treatments. In this study consortium of BHU51 and BHU105 showed better results than the individual *Trichoderma* treatments.

**Key Words:** *Trichoderma*, nutritional quality, antioxidant, tomato, *Sclerotium rolfsii*.