

Effects of Plant Growth Promoting Rhizobacteria on the Yield and Nutritive Quality of Tomato Fruits

Authors : Narjes Dashti, Nida Ali, Magdy Montasser, Vineetha Cherian

Abstract : The influence of two PGPR strains, *Pseudomonas aeruginosa* and *Stenotrophomonas rhizophilia*, on fruit yields, pomological traits and chemical contents of tomato (*Solanum lycopersicum*) fruits were studied. The study was conducted separately on two different cultivar varieties of tomato, namely Supermarmande and UC82B. The results indicated that the presence of the PGPR almost doubled the average yield per plant. There was a significant improvement in the pomological qualities of the PGPR treated tomato fruits compared to the corresponding healthy treatments especially in traits such as the average fruit weight, height, and fruit volume. The chemical analysis of tomato fruits revealed that the presence of the PGPRs increased the total protein, lycopene, alkalinity and phenol content of the tomato fruits compared to the healthy controls. They had no influence on the reduced sugar, total soluble solids or the titerable acid content of fruits. However their presence reduced the amount of ascorbic acid in tomato fruits compared to the healthy controls.

Keywords : PGPR, tomato, fruit quality

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