

Effect of plant growth promoting *Rhizobacteria* and *Mycorrhiza* on tomato fruit quality

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Abstract

Tomato is the second most cultivated vegetable in the world, after potato. The tomato fruit is consumed in diverse ways, including raw, as an ingredient in many dishes and sauces, and in drinks. The fruit is rich in lycopene, which may have beneficial health effects. On the other hand, plant growth promoting rhizobacteria (PGPR) and *Mycorrhiza* can increase plant growth in several ways. Experiment was set in a factorial design based on Random Complete Block Design, with PGPR (*Pseudomonas putida* strain 41, *Azotobacter chroococcum* strain 5 and *Azospirillum lipoferum* strain OF) and mycorrhiza treatments. Vitamin C, Total Dissolved Solid (TSS), pH, P, K, Ca were measured in tomato fruit. All factors in inoculated treatments increased compared to controls. An antagonistic effect was found on the application of *Pseudomonas* with *Azotobacter* or *Azospirillum* while a synergistic effect was found between usage of *Azotobacter* and *Azospirillum* together. On the other hand when AMF was added to all treatments, quality factors increased.