

## Effects of Plant Growth Promoting Bacterium on Yield Components of Tomato

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### SUMMARY

This study was conducted to determine the effects of growth promoting bacterium on yield and yield components of tomato (*Lycopersicon lycopersicum* L.). Different strains of bacteria, 52/1-E43, 21/3F, 17/3N, E43 F, 637 Ca, MFDCa1, 52/1, 21/3+637Ca, 52/1 were used. Tülin F<sub>1</sub> tomato cultivar was used as plant material. In result, there were significant important differences in terms of yield/h, plant length, between nod lengths, average fruit weight, pH and root stem diameter in among the applications. However, there were no important differences in regardless of fruit length, fruit number per plant, fruit diameter, total soluble solid content (TSS) and fruit firmness based on the applications. Yield per hectare changed from 74,099 kg/ha to 46,034 kg/ha and the best results were taken from 21/3F, 52/1 and 21/3+637 Ca applications, respectively. Plant length was determined between 212.2 cm and 197.5 cm and the effective results were reported in 21/3+637 Ca, 52/1 Zeatin, 17/3N and control, respectively. Between plant internodes lengths ranged from 8.9 cm to 8.0 cm. Average fruit weight was determined as 183.0 g and 131.5 and the highest value was found in 17/3N application. pH changed between 4.43 and 4.00 and the best results were reported in 53/1 Zeatin and control, respectively. Root collar diameter was found between 19.69 and 15.91 mm, and the highest value was determined in 21/3+637 Ca application. As a result, different Plant Growth Promoting Bacterium (PGPB) applications have different effects on yield and yield components. Especially 21/3F, 21/3+637 Ca and 17/3N applications had positive effect on yield and yield components, respectively.

**Keywords:** tomato, yield, quality, PGPB