

Tomato transformants (*Solanum lycopersicum* L.) with the gene of *Fe*-superoxide dismutase (*Fe*-SOD 1) from *Arabidopsis thaliana* L. making the plant resistant to the damaging effect of oxidative stress were used in our work. The original-genotype tomato and independent transgenic lines bn 6 and bn 4 were grown in artificial climate. According to the results of determination of the total SOD activity and lipid peroxidation, line 6 bn differs from both the original genotype and line 4 bn by more balanced lipid homeostasis. Under the influence of gene insertions, realignment occurred in the rhizosphere of the line 6 bn plants, in the structure of their actinomycetes complexes. They were expressed as changes in the occurrence frequency and relative abundance of representatives of individual genera, sections and series in the complex, as well as antagonist species, cellulolytic and auxin producers.