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Distribution of microbes-antagonists in tomato rhizosphere in Georgia

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Tomato culture has important place among the vegetables in Georgia. A variety of microorganisms is widely distributed in its rhizosphere, including pathogenic agents, the appearance and development of specific types of which largely depends on the climate and soil conditions. Our research goal was to isolate microorganisms in the tomato rhizosphere, to study their antagonistic interaction to choose strong antagonists to be applied against pathogenic microorganisms in the tomato culture. We have studied the tomato rhizosphere microbial flora according to the plant vegetation phases; 120 cultures were isolated, the antagonistic action of these cultures was tested by the diffusion and streak inoculation methods. The result showed that the strong antagonist strains are: N6, N20 and N30, which have inhibited the growth of microbes, by 25-30%, 20-15% and 13-15% respectively. For the identification of cultures we have studied the morphological, physiological and cultural features of antagonist strains. Bacillus sp. strain N6 and Actinomyces strain N20 and strain N30 have been identified. In conclusion, we have isolated a strong antagonist Bacillus sp., strain N6, which has inhibited (25-30%) the growth of microorganisms extracted from tomato rhizosphere.

Biography

Tamar Shamatava is currently a Doctoral student of St. Andrew the First Called Georgian University of the Patriarchate of Georgia. She is the Researcher Scientist at Technical University, Biotechnology Center and Scientific-Research Center. She has published more than 15 papers in reputed journals and has great experiences in Agriculture and Biotechnology sphere.

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