

عنوان مقاله:

Effect of *Acinetobacter clacoaceticus* plant growth-promoting bacterium on the wheat plant

محل انتشار:

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Introduction and Objectives: Plants growth-promoting bacteria can enhance plants growth by several actions like secretion of phytohormones, ensuring availability of functional nutrients, rescuing plant in abiotic stresses and decreasing pathogenic attacks by releasing antibiotics or toxins. In this study, we did evaluate the effects of *Acinetobacter clacoaceticus* bacterium on the growth of the wheat plant. **Materials and Methods:** Several bacteria were isolated from the rhizosphere of the saffron plant by serial dilution method. NFB medium was used to Identification nitrogen-fixing bacteria. The most resistant bacterium was selected, after salinity and pH tests. 16S rRNA PCR testing was used to identify the bacterium. Formulation of the bacterium was performed with PVA, beet molasses and glycerol to enhance its survival. Agricultural test of bacterium did on the wheat plant and its effects evaluated on the parameter's growth. **Results:** 16S rRNA Gene sequencing showed that the selected bacterium belonged to the *Acinetobacter* family. The bacterium was able to grow from ph. 4 to 11 and withstand the salinity of up to 6%. The formulated bacterium had 1.8108 CFU/ML after six months. The results indicated that the yield of wheat treated with bacteria was up to 20 percent compared to the control sample. **Conclusion:** The use of bacteria as biofertilizers can increase the quantity and quality of products and reduce production costs and hazards of chemical fertilizers.

کلمات کلیدی:

Acinetobacter clacoaceticus, wheat, biofertilizers

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