

عنوان مقاله:

The effect of microbial inoculants on physiological responses of two wheat cultivars under salt stress

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خلاصه مقاله:

Salinity is one of the most important abiotic stresses that limit crop growth and productivity. This study focuses on the effects of different strains of plant growth promoting rhizobacteria (PGPR) on the physiological responses of two wheat cultivars under normal and salt stress conditions. The wheat cultivars selected include one which is tolerant to salinity (Kavir) and one which is sensitive to salt-stress (Qods). The factors considered were four levels of PGPR (B1 to B4) and two levels of salinized culture solution (S1 to S2). Before planting, the wheat was inoculated with strains of PGPR. Results showed that salt stress reduced RWC, Leaf Chlorophyll index and photosynthesis characteristics. The application of PGPRs strains reduced the negative effects of saline stress by increasing the leaf's relative water content and enhancing photosynthetic pigment production in both stress and normal condition. The mechanism of PGPR elicitation of growth promotion may involve the enhancement of root hair development and therefore increased relative water content, chlorophyll pigments and water uptake. Single and dual inoculations of PGPR strains showed variations in their effect to enhance the wheat tolerance to salt. The bacterial consortium was effective for wheat plants as an acceptable and ecofriendly technology to improve plant performance and development

کلمات کلیدی:

Azosprillium, mixed inoculants, Pseudomonas, PGPR, salt stress, wheat

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