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Influence of Salicylic Acid Seed Priming on Catalase and Peroxidase in Zea mays L. Plant (Var- Sc.704) under Water Stress Condition and Different Irrigation Regimes

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Abstract : Abiotic stresses are the principle threat to plant growth and crop productivity all over the world. In order to improve the germination of corn seeds in drought stress conditions, effect of seed priming by various concentrations of salicylic acid (SA) (0.8 and 0.2 mM) on activities of catalase and peroxidase in Zea mays L. plant (Var-Sc.704) was evaluated at Agriculture Research Center located in Arsenjan city in Iran, during summer 2013. A farm research was done in RCBD as factorial with three replications. We considered four irrigation was carried out once the cumulative evaporation from Pan Class A come to 40, 60, 80 and 100 mm. Results illustrated that drought stress significantly increased activities of catalase and peroxidase and also treatment with salicylic acid significantly increased activities of catalase and peroxidase. In addition, treatment with salicylic acid enhances drought tolerance in Zea mays L. plant (Var-Sc.704) with increasing activities of antioxidant enzymes.

Keywords : catalase, corn, salicylic acid, water deficits stress, cumulative evaporation, Pan Class A
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