

Effect of AM fungi Inoculation in Antioxidant Enzymes Activity in Corn and Sunflower plants under Salinity Condition .

Faris M. Suhail* **Ismail K. al-Samarrai **** **Zakaria H. Hamid*****

* College of Agriculture, University of Diyala, Iraq

** College of Agriculture, University of Baghdad, Iraq

*** College of Science, University of Diyala, Iraq

Abstract

A factorial experiment was conducted using a randomized complete block design (RCBD) in sandy loam soil plastic sacks to study the effect of fungus mycorrhiza under salt stress in promoting the growth and activity of antioxidant enzymes (CAT, POD, SOD) to maize and sunflower, as it included the two factor, (inoculation, and without inoculation) with a mixture of fungus mycorrhiza (*Glomus fasciculatum* + *Acoulospora laevis*) and salinity of the water drainage factor (0, 5, 10) ds.m^{-1} .

The results showed that the fungus mycorrhiza inoculation and all salinity levels led to a significant increase in leaf area, the percentage of chlorophyll total, fresh and dry weight of the shoot and wet weight of the roots of the plant maize compared to plants not inoculation, while led to increased insignificantly In all the traits of the sunflower.

The Activity of enzymes (CAT ,POD , SOD) in plants, maize and sunflower mycorrhizal is increased at the level of (5 ds.m^{-1}), but decreased at the high level of salinity (10 ds.m^{-1}). mycorrhiza inoculation and when all levels of salinity led to an increase in the of the Activity enzyme (CAT, POD, SOD) in maize and sunflower compared to non- inoculation, and recorded the highest values of the Activity of these enzymes in plants mycorrhizal and at the level of (5 ds.m^{-1}) and both plants compared to plants non mycorrhizal, mycorrhiza inoculation and at the level of (5 ds.m^{-1}) led to a significant increase in the Activity of the enzyme (CAT, POD, SOD) to corn and sunflower compared to non- inoculation and at the level of(zero ds.m^{-1}) .