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دراسات علي فطريات الميكورايز الحويصلية الشجيرية في أراضي محافظة الطائف

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Abstract : This investigation was carried out to examine the occurrence and levels of root infection of vesicular-arbuscular mycorrhizas in soils and cultivated plants from Al- Taif province. Soil samples and root systems of the standing crops grown at Al- Taif province were collected over one year period starting from october 1993 until September 1994 to see the effect of the seasonal variations in spore population and root infection. Infectivity of soil samples and extracted spores was done against maize plant using the" dilution technique. The affectivity of five spore populations of V A-mycorrhizal fungy were tested against maize and cowpea plants. In addition, these two crops were used to investigate if the mycorrhizal spores, extracted from Al- Taif soil, could improve crop production under the saline conditions. Spore counts showed that all soil samples examined were found to contain mycorrhizal spores. The mean spore numbers and the percentage root infection showed their highest level in Wadi Lea. The least number of spores were detected in soil samples from Al-Shafa. The same trend was .found in the level of root infection. The spore numbers and the level of Foot infection showed clear seasonal variations. The general trend indicated that they were higher in summer and autumn, and lowest in winter. All soil tested and extracts were infective on maize. Results of affectivity test showed that all inocula tested, significantly enhanced maize and cowpea plants in growth. .The effects of salinity on plant growth and mineral contents of maize and cowpeas were secorded. Results showed an increase in plant heights. When plants were subjected to salinity and infected with mycorrhizas, an increase accumulation in nitrogen, phosphorus, potassium and magnesium was found. The general trends of data showed an increase in the rate of photo pigments in leaves of maize and cowpeas infected with mycorrhizas and subjected to salinity. Proline content was decreased in maize and cowpea plants infected with mycorrhizas and subjected to moderate and high concentrations of salinity. Finally, data showed negative interaction in mycorrhizal development especially in the moderate and high concentration of salinity.

Supervisor : د. صالح محمد القرني

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