

MYCORRHIZAL POPULATIONS IN SALINE-SODIC SOILS- IN THE IRRIGATED AREA AT "EL BARRIL" VILLA DE RAMOS, SAN LUIS POTOSÍ, MÉXICO

LEGORRETA, J. Ricardo¹; LOREDO, Catarina²; MENDEZ, Heriberto²; LARA, José Luis² BELTRÁN, Sergio³

¹Graduate Student Master Degree; ²Faculty of Agriculture and Veterinary Medicine of the Autonomous University of San Luis Potosi-Mexico; ³Inagrotec, SC, México

* Author responsible: catarina.loredo@uaslp.mx; Tel 52 444 8524057 ext. 1118

The productive capacity of ecosystems in Mexico, is being lost considerably due to overuse of resources. In the irrigated area at "El Barril", San Luis Potosi, Mexico, the presence of soluble salts in the soil affects the crop yields. The aims of this study were to characterize the irrigation water quality and the properties of saline-sodic soils in the area and assess the presence of mycorrhizal fungi. Water samples from 22 sites were taken and electrical conductivity (EC), pH, sodium adsorption ratio (SAR) values, and anions and cations concentrations were determined. Soil samples were taken at a 0- 40 cm depth. In these samples, physical properties (texture, bulk density, field capacity and permanent wilting point, organic matter and nutrients contents, and salinity and sodicity characterization were determined. Spores of mycorrhizal fungi (AMF) were isolated, quantified and identified. A X^2 test was performed to determine significant difference between the spores densities. Regarding the water quality, 75% of sites presented slight restriction for salinity, 8% severe restriction and 17% presented moderate restriction. Regarding sodicity problems, 83% of sites have water with moderate restriction, and 17% severe restriction. In the case of soils, it was identified that 46% are sodic soils, 31% are saline-sodic soils, and 23% are normal soils. Seven species of fungi were identified; *Glomus* was the most predominant genera. In the fungal populations, no significant differences were found in the different soils. It is advisable to apply leaching fraction during the irrigation, application gypsum in 6 sites, adding organic matter to the soil, and establishment of tolerant crops.