

LEPTOCHLOA FUSCA: GRASS USED FOR BIOLOGICAL AMELIORATION OF SALT - AFFECTED SOILSM. Abdullah^{*}, R.H. Qureshi^{**} and M. Aslam^{**}**ABSTRACT**

Leptochloa fusca is known to be a versatile, halophytic, primary colonizer, C₄, easily propagatable, perennial, thermophilic, nutritive and palatable forage plant species. Its shoot and root growth under various isosmotic substrate concentrations, e.g. 0.5, 0.75 and 1.0 Mpa of NaCl, Na₂SO₄, CaCl₂, MgCl₂ and MgSO₄ (0.25 and 0.5 Mpa), was studied in gravel culture. The results clearly indicate that NaCl caused minimum inhibition in growth of both shoot and root followed in order by Na₂SO₄, CaCl₂ and MgCl₂. Na⁺ was the most compatible cation while Cl⁻ was less toxic than SO₄²⁻ as the anion. The efficient excretion of salts through salt glands (as seen in SEM) indicated more absorption and subsequent excretion of Na⁺ and Cl⁻ than Ca²⁺, Mg²⁺ and K⁺ at all salinity levels. The extensive development for roots under Na⁺ and Cl⁻ dominant root environments alongwith more excretion of these ions than others make it a suitable plant for economic utilization and even biological amelioration of saline-sodic and sodic soils.