DIFFERENTIAL PERFORMANCE OF FOUR WHEAT VARIETIES AT DIFFERENT LEVELS OF ROOT MEDIUM SALINITY

Manzoor Ahmad[1]

ABSTRACT

The experiment was conducted in an environmentally controlled green house in solution culture. Four wheat varieties (Kharchia-65, PAK-81, SARC-1 and Punjab-85) were grown at 0, 50, 100 and 150 mol m^{-3} NaCl concentrations. All the wheat varieties responded differently to salt stress. SARC-1 and Kharchia-65 showed better performance than the salt-sensitive variety Punjab-85 and PAK-81. Kharchia-65 and SARC-1 were able to maintain higher leaf area, dry weight and RGR than other varieties at elevated salt stress which might be a reason for their better yield and superior salt tolerance. At 150 mol m^{-3} NaCl stress, hundred grain weight in Kharchia-65 was lower than that of SARC-1 and PAK-81 in spite of the fact that its leaf area and dry weight was the highest. This suggests the presence of some inhibitory mechanism in the translocation of assimilates from the leaves to the seeds at high salinity. Punjab-85 was a suitable variety under non-saline conditions but its yield under higher salinity levels was very low and proved to be sensitive to salt stress and unsuitable for salt affected soils.