

## PERFORMANCE OF SELECTED WHEAT GENOTYPES GROWN UNDER SALINE AND HYPOXIC ENVIRONMENT

J. Akhtar, R.H. Qureshi, M. Aslam and S. Nawaz<sup>1</sup>

### ABSTRACT

The experiment was conducted by growing five wheat genotypes (Pato, LU-26S, Pb-85, Tchere and Pak-81) in round plastic tubs containing vermiculite-gravel (1:1 by volume). There were four treatments; control (non-saline, aerobic), hypoxic, saline ( $100 \text{ mol m}^{-3} \text{ NaCl} - 5 \text{ mol m}^{-3} \text{ CaCl}_2$ ) and saline-hypoxic arranged according to completely randomised design with five replications. Plants were harvested after six weeks of stress. Salinity reduced the vegetative growth significantly and the combined stress of salinity and hypoxia caused further reduction. Tchere and Pb-85 proved better while Pato was the most sensitive as compared to other genotypes. Salinity alone or in combination with hypoxia increased  $\text{Na}^+$  and decreased  $\text{K}^+$  concentration in the expressed sap of the youngest fully expanded or the oldest leaves and this effect was more pronounced in saline + hypoxia treatment. Tchere had the lowest  $\text{Na}^+$  conc. in leaf sap followed by Pb-85 while the latter maintained higher  $\text{K}^+$  conc. The oldest leaves accumulated more  $\text{Na}^+$  and less  $\text{K}^+$  while the youngest fully expanded leaves showed an opposite trend.