EFFECT OF SALINITY AND SODICITY ON GROWTH AND IONIC RELATIONS OF DIFFERENT WHEAT GENOTYPES

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ABSTRACT

A pot experiment was conducted in greenhouse to study the effect of salinity and sodicity on growth and ionic relations of different wheat genotypes. Three treatments including control, saline and saline sodic were implied in soil culture. For control treatment soil was collected from a normal field having EC_e 1.8 d Sm^{-1} and in case of saline treatment the EC_e of this soil was raised to 15 d Sm^{-1} by adding required amount of NaCl while for saline sodic treatment the soil was collected from a naturally salt affected field having EC_e 15 d Sm^{-1} and SAR 35 (m mol $L^{-1})^{1/2}$. Data on different growth parameters like shoot fresh weight, shoot dry weight and shoot length were recorded and leaf ionic composition regarding Na^+, K^+ and Cl^- were determined. Salinity as well as sodicity caused a significant reduction in all the growth parameters studied. However, the effect of saline sodic conditions was significantly higher as compared to salinity alone. The concentration of Na^+ and Cl^- increased significantly due to salinity and sodicity while the concentration of K^+ and the K^+ :Na^+ ratio decreased significantly in leaves of all the wheat genotypes. The variation among genotypes regarding different growth parameters was also reduced under stressed conditions.