

RESPONSE OF SOME WHEAT GENOTYPES GROWN UNDER SALINE (NaCl) ENVIRONMENT

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ABSTRACT

Five wheat genotypes (SI-91195, N-41, N-1076, N-886 and SD-1200/14) were evaluated under different salinity levels (control, 6.0, 9.0 dS m⁻¹) in cemented tanks filled with river sand. The objectives of the study were to see the salinity tolerance and solute accumulation (organic and inorganic), of different genotypes for turgor maintenance at varying salinity levels. Growth performance was recorded at the time of harvest. The genotype N-41 performed better at high salinity level (i.e. 9 dS m⁻¹) in terms of plant height, biomass plant⁻¹, spike length, number of grains plant⁻¹ and 1000-grain weight, followed by N-1076, SI-91195 and SD-1200/14. The performance of N-886 was comparatively poor, at higher salinity levels. The adaptability of good performing genotypes might be due to the low accumulation of Na, resulting in high K/Na ratio and the higher accumulation of proline for the turgor maintenance.

Key Words: Salt tolerance, Solute accumulation, Wheat genotypes.