EFFECT OF SALINITY ON SEEDLING PARAMETERS OF INDIAN WHEAT VARIETIES

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Abstract: Salinity is one of the most important abiotic stress conditions. Wheat (*Triticum aestivum* L.) is major cereal crop of world; it's grown in worldwide under different agro climatic, environmental condition and geographical condition as well as in tremendous heterogeneity of saline soil. Response of salt stress under four salinity concentrations levels 0 (only distilled water: control), 1.227, 2.629 and 5.550 g l^{-1}) on five varieties of wheat *viz.,* U 2594, K-816, Sujata, HD-2733 and PBW 373 were conducted The data showed that reduced significantly with subsequent treatment affected the growth attributes such as germination percentage (%), plumule and redical length, fresh and dry weight of root and shoot for all varieties. Number of germinated seeds was finally recorded after seven days. Results showed significant decreases in germination percentage of Indian wheat varieties due to increasing salinity. Among the wheat varieties Sujata showed that tolerable against salinity while UP 2594 most susceptible variety.). Any impairment in seed germination or seedling development due to salt stress can cause significant depressions in yield formation. It appears that the bread wheat genotypes Sujata can perform well on saline soils, at least during the early growth stages. The existence of such impressive genotypic variation in tolerance to NaCl could be very useful for the development of high-yielding salt-tolerant genotypes and better understanding of the physiological and molecular mechanisms contributing to salt-stress tolerance in wheat. This study showed the existence of an impressive variation in tolerance to increasing NaCl treatments during the early growth stage.

Keywords: Abiotic stress, salinity, seed germination and variety

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