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# Salinity Stress: Effects on Growth Biochemical Parameters and Ion Homeostasis in Spinach (Spinacia Oleracea L.)

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**Abstract :** Plant growth, biochemical parameters, cytotoxic ion sequestration and ionic in balance were determined for spinach in response to varied concentrations of NaCl. The plant show decline in all vegetative parameters measured. Free proline content increase with increasing salt concentration and differ significantly ($p<0.05$) while the glycine betaine insignificantly ($p>0.05$) affected by concentration of NaCl. Salinity increases the cytotoxic ions, sodium chlorine ion and calcium with corresponding decrease in potassium ion concentrations. The ionic balance (Na+/K+) is low due to high content of potassium ion in plant accumulation ranging from 7700 to 6500 mg/kg. It can be concluded that the osmolyte accumulations, high number of leaves are possible indicators of salt tolerance in the spinach.

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