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## Effect of pH in the growth of *Cicer arietinum* under salinity stress

Effect of pH in the growth of *Cicer arietinum* under salinity stress

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### Abstract

Salinity is one of the major abiotic stresses which negatively affects the plant growth by increasing the intracellular osmotic pressure. *Cicer arietinum* (chickpea) is sensitive under saline stress. Among various physicochemical properties, pH is one of the crucial factors for plant growth, so to check its effect, the plants were grown hydroponically under varying pH conditions, pH 4, 6 and 8 in 100 mM NaCl stress. Various biochemical analyses were done after 1, 3 and 5 days. After one and five days, the plants grown in pH 4 + NaCl showed maximum root length, relative water content in root and shoot. Even the root: shoot dry weight ratio was found to be maximum in the same setup after all three experimental durations. After three days, the plants which were grown in pH 8 + NaCl condition showed relatively longer root length and maximum relative water content in comparison to all three pH setups. Among all the experimental setups, maximum photosynthetic pigments were reported in pH 4 + NaCl. The antioxidant enzymes such as GPX, APX, SOD, catalase and other enzymes such as proline and MDA were also analysed in all the experimental setups to understand the role of pH under NaCl stress in chickpea. In the current study, both pH and NaCl showed synergistic and antagonistic effects on plant growth and development.

Keywords: Antioxidant enzymes, *Cicer arietinum*, pH, salinity

**strong text**

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