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Antioxidative Potentials as a Protective Mechanism in *Catharanthus roseus* (L.) G.Don. Plants under Salinity Stress

Cheruth Abdul JALEEL, Ragupathi GOPI, Paramasivam MANIVANNAN, Rajaram PANNEERSELVAM
Stress Physiology Lab, Department of Botany, Annamalai University, Annamalainagar 608 002, Tamil Nadu - INDIA

 [Keywords](#)
[Authors](#)



bot@tubitak.gov.tr

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Abstract: Antioxidant responses were analysed in *Catharanthus roseus* (L.) G.Don. under 0, 50 and 100 mM NaCl in order to investigate the plant's protective mechanisms against long-term salt-induced oxidative stress. The NaCl treatments were repeated in 4 different stages of growth, i.e. 30, 45, 60 and 75 days after sowing (DAS). The plants were uprooted randomly 90 DAS and the non-enzymatic and enzymatic antioxidant potentials were analysed. High salinity caused a decrease in reduced glutathione (GSH) and an enhancement in total ascorbate (AA) content and the antioxidant enzyme and ascorbate peroxidase (APX, EC 1.11.1.11) activities. Moreover, salinity induced a significant decline in superoxide dismutase (SOD, EC 1.15.1.1) and peroxidase (POX, EC 1.11.1.7) activities. The changes found in catalase (CAT, EC 1.11.1.6) activities may be of great importance in the H₂O₂ detoxification mechanism under oxidative stress.

Key Words: Antioxidants, antioxidant enzyme, salinity, *Catharanthus roseus*

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