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Effect of salt stress induced response in bixin synthesis in *Bixa orellana* L

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Plant secondary metabolites play an important role in food, cosmetics and pharmaceutical industries. Stress involve in either accumulation or depletion of secondary metabolites in plants. Salt stress has been reported to induce various metabolites in several plants. Here, we have investigated the role of salt stress in *Bixa orellana* towards the bixin biosynthesis. The seedlings of *B. orellana* were grown in different mM concentration of NaCl (0, 25, 50, 75 & 100) and comparative biochemical, molecular variations study was carried out. The stress treated and control leaves of *B. orellana* was analyzed with various stress enzyme like Catalase (CAT), Peroxidase (POD), Superoxide Dismutase (SOD) using spectroscopic analysis as well as by native polyacrylamide gel electrophoretic technique. The total proteins from control leaves and NaCl treated leaves were estimated as well as analyzed in SDS PAGE. In addition, spectroscopic based total carotenoid pigment and bixin was estimated. Increasing level of antioxidant enzymes like CAT, POD and SOD was observed upon increasing salt concentration indicating the salt tolerance of the plantlets. It has been observed that salt stress treated plantlets produced more amount of carotenoid pigment. These results may afford the mechanism of salt tolerance and enhanced pigment production of *B. orellana*. In summary, the abiotic stress factor, salinity influence secondary metabolite production in *B. orellana*.

Biography

Sankari Mohan is currently pursuing PhD under the guidance of Dr. R. Siva from Plant Biotechnology lab, SBST, VIT University, India.

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