

METABOLIC CHANGES IN *RHODODENDRON ARBOREUM* SMITH IN RESPONSE TO ABIOTIC STRESS INDUCED BY SALINITY AND ABSCISIC ACID

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ABSTRACT

Studies on *in-vitro* abiotic stress on *Rhododendron arboreum* revealed rapid disruption in the physiological and biochemical activities when simulated stress conditions i.e., salinity and cold were induced by sodium chloride (NaCl) and abscisic acid (ABA). All the stress treatments increased the production of protein, soluble carbohydrates and proline. Salinity induced stress led to maximum membrane deterioration as evidenced by electrolyte leakage and membrane lipid peroxidation. Phenols, known for its antioxidant activity could maintain its level with 100 μ M ABA treatment; in all the other cases, there was drastic downslide in the total phenol content. Carotenoids levels were generally enhanced and chlorophyll levels generally decreased in the given stress treatments. However, ABA caused stimulation of photo system-I activity.

KEYWORDS: Antioxidant Enzymes, Osmotic Adjustment, Oxidative Damage, *Rhododendron arboreum*