

Fifth Article (Single - published).

Article title	Salicylic acid mitigates the adverse effect of water stress on lettuce (<i>Lactuca sativa</i> L.).
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Abstract

A pot experiment was carried out to investigate the effect of salicylic acid (SA) on growth traits, yield, relative water content (RWC), electrolyte leakage percent (EL %), photosynthetic pigments, osmoprotectants; proline, soluble sugars, soluble proteins and phenols. In addition, leaf and root anatomy were studied in lettuce 'Balady' plants subjected to water stress. Plants were treated with two regimes of irrigation water, i.e., 100% (control) and 60% of field capacity (FC) and three levels of SA (10^{-4} , 10^{-3} and 10^{-2} M). Growth traits, yield, RWC, EL%, photosynthetic pigments, all osmoprotectants, and leaf and root anatomy were significantly altered by both water stress and SA treatments. Our results indicated that, SA mitigated the water stress and significantly improved all tested parameters as compared to non-SA-treated water stressed plants. Results also showed that, SA application removes suffering lettuce plants grown under water stress by the enhancing antioxidant defense and improves anatomical structure of leaves and roots.