RESEARCH ARTICLE

OXIDATIVE STRESS RESPONSES IN LEGUMINOUS CROPS IN RESPONSE TO SULPHUR DIOXIDE: A MAJOR AIR POLLUTANT

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Abstract: Present study is an attempt to evaluate and compare the oxidative stress response in *Vigna mungo* L. cv.T-9, *Pisum sativum* L. cv. Arkil, *Cajanus cajan* L. cv. UPAS – 120 and *Cicer arietinum* L. cv. Avrodhi on exposure to four different concentrations of sulphur dioxide, viz. 653, 1306, 2612 and 3918 µg m^{-3} at different plant ages. Observations were made and results incurred at 40 and 80 d of plant age. Oxidative stress was observed in the form of Ascorbic acid content which was evaluated, tabulated and statistically analysed. An initial enhancement in the ascorbic acid content was observed upon fumigation with SO_2in the four cultivarswhich was followed by a gradual reduction in the ascorbic acid level with increasing age. Increased level of ascorbic acid has been related with the tolerance of plant to the pollutant. *Cajanus cajan* exhibited highest degree of tolerance.

Keywords: Air pollution, Sulphur dioxide, Oxidative stress, Ascorbic acid, Legumes

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