RESEARCH ARTICLE

RESPONSE OF *BRASSICA CAMPESTRIS* L. CV. *VARUNA* TO SIMULATED ACID RAIN

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Abstract: The effects of simulated acid rain (pH 4, 0) have been studied on *Brassica campestris* L. cv. *varuna*. The plant growth in terms of shoot and root length, number of leaves per plant and number of lateral branches, was reduced significantly in HNO_3, H_2SO_4 and $HNO_3 + H_2SO_4$ simulated acid rain. Reduction in dry weight and net primary productivity were also observed and the effects were found to be age dependent. Flowering was delayed by simulated acid rain. There was also a significant reduction in yield. The effect of HNO_3 simulated acid rain was greater than H_2SO_4 simulated acid rain and $HNO_3 + H_2SO_4$ simulated acid rain caused maximum reduction in plant growth and yield. A reduction in chlorophyll a, chlorophyll b, and total chlorophyll contents of leaves was also observed after 10 days of treatment. The loss in chlorophyll a was higher than chlorophyll b. A significant increase was observed in nitrogen content on application of HNO_3 simulated acid rain and sulphur content in H_2SO_4 simulated acid rain. The plants subjected to simulated acid rain did not show any visible foliar injury symptoms up to 35 days but subsequently these symptoms appeared.

Keywords: *Brassica campestris*, Acid rain, Plant, Shoot, Root

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