

Pre-treatment salicylic acid: Effects on growth and Cd uptake by *Musa spp.* under *in vitro* conditions**Doaa Elazab**

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Cadmium (Cd) is an omnipresent non-nutrient heavy metal, with a particular concern because of its high solubility, mobility, and high phytotoxicity even at low concentrations as well as its toxicity for human upon its entry into the food chain. In this study, salicylic acid (SA) has been investigated as a pre-treatment on Grand naine cultivar grown *in vitro*. Grand naine explants were cultivated on MS medium supplemented with different concentrations of SA (0, 0.5 and 1 mM), then these explants transferred twice to MS medium supplemented with varying concentrations of Cd (0, 50, 100, 200, 500, 1000 and 1500 μM CdCl_2) to examine the accumulation effect of Cd on

banana explants. After two subcultures on Cd medium, we found out that adding SA at 0.5 mM had a significant positive effect on vegetative growth such as; mortality, shoot multiplication, plantlet height (cm), fresh and dry weight (g), total chlorophyll, carotenoids and proline content. Moreover, the application of 0.5 mM of SA to the plants treated with 500 μM Cd reduced the uptake of Cd by 15%. The results in this paper is expected since SA is known as a hormone-like substance which has been reported as an alleviator for abiotic and biotic stresses either *in vitro* or *in vivo* cultures in many different plant species.

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