

Phytotoxicity of Lead on the Physiological Parameters of Two Varieties of Broad Bean (*Vicia faba*)

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Abstract : The phytotoxicity of heavy metals can be expressed on roots and visible part of plants and is characterized by molecular and metabolic answers at various levels of organization of the whole plant. The present study was undertaken on two varieties of broad bean *Vicia faba* (Sidi Aïch and Super Aguadulce). The device was mounted on a substrate prepared by mixing sand, soil and compost, the substrate was artificially contaminated with three doses of lead nitrate [Pb(NO₃)₂] 0, 500 and 1000 ppm. Our objective is to follow the behavior of plant opposite the stress by evaluating the physiological parameters. The results reveal a reduction in the parameters of the productivity (chlorophyll and proteins production) with an increase in the osmoregulators (soluble sugars and proline). These results show that the production of broad bean is strongly modified by the disturbance of its internal physiology under lead exposure.

Keywords : broad bean, lead, stress, physiological parameters, phytotoxicity

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