

EVALUATION OF HEAVY METALS UPTAKE AND GROWTH PARAMETERS OF *LYCOPERSICUM ESCULENTUM* AND *AMARANTHUS HYBRIDUS* GROWN ON SOIL POLLUTED WITH SPENT ENGINE OIL

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ABSTRACT

The effect of spent engine oil on growth parameters and heavy metals uptake of *Lycopersicum esculentum* (Tomatoes) and *Amaranthus hybridus* (African Spinach) was investigated. The completely randomized design was used with five treatment levels of spent engine oil at 0.0, 10.00, 20.00, 30.00 and 40.00ml were applied to 1.5kg of soil. The percentage survival germination of the plants was determined after four weeks of planting. Height and stem diameter of the plants were taken weekly after five weeks of planting. The heavy metals (As, Zn, Pb, Hg and Cd) were analyzed using Atomic Absorption Spectrophotometry. An increase in the volume of spent lubricating oil leads to the decrease in the growth parameters of the plants. The percentage survival, stem diameter and the leaves number of *L. esculentum* were significantly ($P < 0.05$) higher than *A. hybridus*. The height of *A. hybridus* was significantly ($P < 0.05$) higher than the height of *L. esculentum*. There is significant difference ($P < 0.05$) in heavy metal concentrations of the plants at different treatment levels compared with the control. It is therefore imperative to inform and enlighten the local farmers and the consumers on the danger of planting on soil and using water polluted with spent lubricating oil.