Phytoremediation Potential of *Lactuca sativa* Var. *romaine* in Cadmium Nitrate treated Soil in De La Salle University- Dasmariñas Dasmariñas, Cavite

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ABSTRACT

The study was conducted to determine the phytoremediation ability of *Lactuca sativa*, in different concentrations of cadmium nitrate, on its growth, number of leaves and the maximum concentration that the plants were able to uptake. The experimental study used four treatments with three replicates each, namely T_0=untreated, T_1=25mg/kg, T_2=50mg/kg, T_3=75mg/kg. This was performed at the DLSU- Dasmariñas Integrated Farm. The plants were observed in five consecutive weeks in terms of their growth and number of leaves. By getting the final weight minus the dried weight of the plant, the biomass was obtained. Results showed that the higher amounts of cadmium nitrate caused the plant to grow slower thus resulting in a lower biomass. Dried samples were digested in acidic mixture of HNO3:HClO4 and the samples were analyzed using Atomic Absorption Spectrometry (AAS) at DLSU-Manila. Cadmium analysis using AAS revealed that the higher the concentration of cadmium nitrate in plant samples, the higher its absorbance. One-way ANOVA was used as a tool for statistical analysis, which showed that the number of leaves and the absorbance of the lettuce have a significance difference in the cadmium concentrations. No significant difference was noted in the growth of the plants. The study concludes that *Lactuca sativa* has a phytoremediation potential in treated cadmium nitrate soil.

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