

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

**An Undergraduate Research
Presented to the Faculty of the Biological Sciences Department
College of Science
De La Salle University- Dasmariñas
Dasmariñas, Cavite**

The seal of De La Salle University - Dasmariñas is a circular emblem with a scalloped border. It features a central shield with a red triangle, a blue triangle, and a white triangle, with a green star above it. The shield is set against a background of green leaves and a book. The text around the seal includes "AKLATANG EMILIO AQUINO UNIVERSITY RESOURCE CENTER" at the top, "De La Salle University - Dasmariñas" on the left, "Dasmariñas, Cavite Philippines" on the right, and "Since 1977" at the bottom.

**In Partial Fulfillment
Of the Requirements for the Degree
Bachelor of Science in Biology
Major in Human Biology**

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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 $HNO_3:HClO_4$ 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.

