

**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 cross and a star, surrounded by a banner. The text "AKLATANG EMILIO AQUINO" is written along the top inner edge, and "RESOURCE CENTER" is on the right. The bottom inner edge contains "De La Salle University-Dasmariñas" and "Dasmariñas, Cavite Philippines". The outer ring of the seal contains the text "De La Salle University-Dasmariñas • Since 1977 • Dasmariñas, Cavite Philippines".

**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 T₀=untreated, T₁=25mg/kg, T₂=50mg/kg, T₃=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.



TABLE OF CONTENTS

Title Page	1
Abstract	2
Acknowledgments	4
Table of Contents	6
CHAPTER 1 INTRODUCTION	
1.1 Background of the Study	8
1.2 Conceptual Framework	9
1.3 Statement of the Problem	10
1.4 Hypothesis	10
1.5 Scope and Limitations	10
1.6 Significance of the Study	11
1.7 Definition of Terms	12
CHAPTER 2 LITERATURE REVIEW	
2.1 Conceptual Literature	16
2.2 Related Studies	28
CHAPTER 3 METHODOLOGY	
3.1 Research Design	30
3.2 Research Setting	31
3.3 Research Procedure	31
3.4 Data Gathering and Statistical Analysis	33

CHAPTER 4 RESULTS AND DISCUSSION

4.1 Results	36
4.2 Discussion	40

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions	45
5.2 Recommendations	46

Cited References	47
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Appendices

A. Standard Procedure	50
B. Tables	52
C. Photo documentation	57
D. Graphs	66
E. Curriculum Vitae	68

