

**EFFECTS OF DIFFERENT CONCENTRATIONS OF ARTIFICIAL  
ACID RAIN ON THE LEAF MORPHOLOGY AND  
CHLOROPHYLL CONTENT OF  
*Canarium ovatum* (PILI)**

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

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 at the top, a white triangle at the bottom, and a blue triangle on the left. The shield is flanked by green laurel branches. The text "AKLATANG EMILIO AGUNALDO" is written along the top inner edge, and "RESOURCE CENTER" is on the right. The outer ring 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 determined the effects of different concentrations of artificial acid rain on the leaf morphology and chlorophyll content of *Canarium ovatum* (Pili) in ways that it will raise concerns on detrimental effects of acid rain in our country using *Canarium ovatum* as test plant. A total of 36 test plants were used in the study that has four treatments and three replicates. The presence or absence of spotting, the change in the leaf color and the number of the chlorophyll content of leaves of *Canarium ovatum* were recorded, collected, extracted and analyze after two months. Different concentrations of artificial acid rain were prepared and administered: T0- 5.6 (control), T1- 6.27 (natural rain), T2- 4.9 and T3- 3.22. Using Chi Square test and One-Way ANOVA, the researchers observed that there was significant difference between the different treatments of artificial acid rain based on the leaf morphology and chlorophyll content of *Canarium ovatum*. Based on the gathered results and observations, this research concludes that the different concentrations of acid rain used in the experiment had a considerable effect to both the leaf morphology and chlorophyll content of *Canarium ovatum*. Changes on the leaf morphology are particularly apparent as the acidity of the artificial acid rain increases. The lower the pH levels of artificial acid rain, the greater is the degree of damage and changes on the leaves of *Canarium ovatum* plants. The same is true for the chlorophyll content of *Canarium ovatum* plants. The decrease on the pH concentration of artificial rain also brought a decrease on the chlorophyll content on the leaves of *Canarium ovatum* plants since it directly damage the chlorophyll molecule and the internal buffering capacity of the plant.

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