

ANALYSIS OF ROTENONE CONTENT
AND TOXICITY OF THE POWDERED ROOTS
OF THE COMMON SPECIES OF DERRIS
IN THE PROVINCE OF CEBU

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In Partial Fulfillment
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Master of Science in Biology

by
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APPROVAL SHEET

This thesis entitled "Analysis of Rotenone Content and Toxicity of the Powdered Roots of the Common Species of Derris in the Province of Cebu," prepared and submitted by Mrs. Bibiana L. Tee in partial fulfillment of the requirements for the degree of M.S. Biology major in Botany has been examined and is recommended for acceptance and approval for ORAL EXAMINATION.

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ABSTRACT

This study is about the analysis of rotenone content and toxicity of the powdered roots of the common species of Derris in the province of Cebu.

Nine different localities mentioned in the interviews were surveyed for presence of Derris plants. Soil types and characteristics of the localities were determined to know its effect on the rotenone content of the young and mature roots of the Derris plants. The degree of toxicity as an insecticide of the Derris root powder containing rotenone was tested on aphids in the soybean plants. Whether the degree of toxicity of the powder is affected by exposure to sunlight was also tested.

The common species identified was Derris elliptica Benth. It was found to contain a higher amount of rotenone in the roots when grown on a loamy and porous soil. The mature roots have a higher rotenone content than younger roots.

The Derris root powder was found to be an effective insecticide on the soybean plants. The mortality of aphids was higher on plants treated with Derris root powder not exposed to sunlight than on plants treated with exposed Derris root powder. This result indicates that the insecticidal value of the Derris root powder is affected by exposure to sunlight.

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