

EVALUATION OF ANTITERMITIC EFFECTS OF AIR DRIED  
BIG SAGE (*Lantana camara* L)

Research Study

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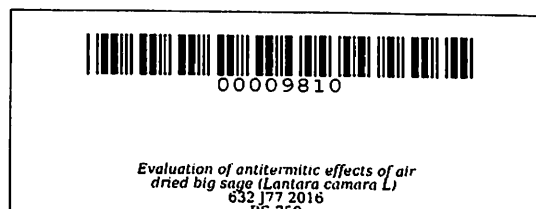
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**EVALUATION OF ANTITERMITIC EFFECTS OF AIR-DRIED  
BIG SAGE (*Lantana camara* L.)**

A Research Study  
Submitted to the Faculty of the  
Science High School, College of Education,  
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Indang, Cavite

In partial fulfillment of the requirements  
for graduation



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## ABSTRACT

**JOSE, NAOMI RUTH A., PERLADO, NIÑA PEARLETTE P. AND SINGSON, GRACE PAULINE O.** Evaluation of Antitermitic Effects of Air-dried Big Sage (*Lantana camara* L). Research Study (General Science curriculum). Science High School, College of Education, Cavite State University, Indang Cavite. April 2016. Adviser: Dr. Evelyn O. Singson.

The study entitled “Evaluation of Antitermitic Effects of Air-Dried Big Sage (*Lantana camara* L)” was conducted to determine the antitermitic effects of air-dried Big Sage. Specifically, it aimed to: (1) determine the antitermitic effects of air-dried *Lantana* leaf extract using different concentrations and solvents in terms of termite mortality rate; and (2) determine the most effective concentration and solvent of *Lantana camara* extract against termite. The experiment was conducted at the Crop Protection Laboratory, College of Agriculture, Food, Environment and Natural Resources, Cavite State University from December 2015 to February 2016, using randomized complete block design with four treatments replicated three times.

Results revealed both hexane and dichloromethane performed comparably in terms of termite mortality. At 75% and 50% concentration, both gave a mortality rate of 100% and 97.78% respectively which are statistically comparable. There was an increasing mortality at increasing concentration of hexane and dichloromethane leaf extract and time exposure. Moreover, at 24 hours after treatment (HAT), the performance of 75% concentration of methanol leaf extract was statistically significant. It gave a mortality of more than 50%. In addition, at 48 HAT, all concentrations of methanol leaf extract and Fipronil gave 100% mortality.

Among the solvents evaluated, methanol is the most effective. It showed the highest mortality rate at all concentrations at 24HAT and 48HAT.

Based on the findings, it can be concluded that using all those solvents, the higher concentrations of *L. camara* leaf extract, the higher the mortality. Moreover, Methanol is the best extract and 75% is the best concentration that totally exterminates termites.

It is suggested that *Lantana camara* leaf extract be utilized as a botanical termiticide. *Lantana* toxicity is a good substitute of the non-environment friendly, chemical pesticide.

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A research study manuscript submitted to the Faculty of the Science High School, College of Education, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for graduation with Contribution No. \_\_\_\_\_. Prepared under the supervision of Dr. Evelyn O. Singson.

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## **INTRODUCTION**

Plant extracts present a considerable, essentially unexploited reservoir of chemical compounds with countless potential uses. These plant extracts contain phytochemicals, such as botanicals which are naturally occurring insecticides obtained from fruits, leaves, stems, flowers, bark and roots. Several groups of phytochemicals such as alkaloids, steroids, terpenoids, essential oils and phenolics extracted from different plants had been reported for their insecticidal activities (Shaan, et al, 2005). Botanicals are basically plants' secondary metabolites that serve as their means of defense against the continuous selection pressure from herbivores, predators and other environmental factors (Ghosh, et al, 2012).

One of the many important uses of botanicals or plant extracts is in managing pests which confer less risk than using synthetic compounds that are toxicologically and