

Crude Extraction of Azadirachtin in Neem Leaves (*Azadirachta indica*) as an Active Ingredient in the Production of Organic Mosquito Repellent

Mr. Joedel O. Galapon, M.S., LPT

<https://orcid.org/0000-0003-1121-6088>

joedel.galapon@deped.gov.ph

Ignacio Villamor High School - Senior High Department
2118 San Andres Ext, Manila, Philippines

Abstract

The crude extract from the neem leaves (*Azadirachta indica*) has a chemical compound Azadirachtin used as an organic mosquito repellent lotion as a health care product that will serve that prone member community such as pregnant women, children, senior citizens, and infants, and aimed to evaluate the marketability of the lotion. The extraction of neem leaves was performed at the Industrial Technology Development Institute (ITDI), Department of Science and Technology in Taguig City, and the lotion was formulated in the school laboratory. The researcher tested the efficacy of the mosquito repellent lotion based on the Guidelines for the Efficacy Testing of Mosquito Repellents for Human Skin released by the World Health Organization. Two hundred female mosquitoes were used from the Department of Science and Technology and the mosquito cage was borrowed from Philippine Nuclear Research Institute – Agricultural Research. One millimeter of lotion was applied to the hands of 40 senior high school students subjected to 8 hours series of experiments. The hand was placed inside the mosquito cage and exposed directly to the female mosquitoes at a 15-minute interval. Through a series of surveys and product testing, it was found that almost 50% of the respondents agreed to buy the product. The cost of the lotion is Php 10 per 5 ml. The price is cheaper compared to competitors. The efficacy of the Neem organic mosquito repellent lotion is very high. Based on experiments conducted, when 1 ml of lotion was applied to 40 hands and exposed to 200 female mosquitoes inside the mosquito cage, it was generally observed that the mosquitoes moved away from the hands. An average protection time of 8 hours was determined from the different trials done.

Keywords: neem, repellent, mosquito, crude extract