

INVESTIGATORY PROJECT OF LEMON EUCALYPTUS AND CITRONELLA ESSENTIAL OIL AS A MOSQUITO-REPELLING FLOOR WAX

ABSTRACT

AUTHORS

Savanna Kristal Cadalin
Airex Tyronne Cleofas
Servando Delacruz
Mar Jhon Malawit
Mark Rodel Martinez

RESEARCH ADVISER

Roldan D. Bamondi

AFFILIATION

Bestlink College of the
Philippines

DISCIPLINE

Chemistry

KEYWORDS

*mosquito-repelling floor wax;
lemon eucalyptus oil;
citronella oil; essential oils;
natural pest control; product
formulation*

ARTICLE ID

AASGBCPJMR-B29063

This study explored the development and evaluation of an innovative mosquito-repelling floor wax using lemon eucalyptus and citronella essential oils. With the rising demand for natural alternatives to chemical pest control, the research focused on the product's effectiveness in repelling mosquitoes while also serving its primary function of cleaning and protecting floors. The study aimed to determine both the feasibility of the formulation and its acceptability among potential users as a practical, eco-friendly household solution. This study employed a quantitative experimental design, using a survey questionnaire to evaluate the acceptability of a mosquito-repelling floor wax. Ten participants—comprising five chemists and five chemistry teachers selected through purposive sampling—assessed the product based on ease of application, odor, mosquito repellency, toxicity, and overall presentation. Data were analyzed using percentage frequency distribution, weighted mean, and t-tests to determine the product's effectiveness and acceptability. The mosquito-repelling floor wax was rated highly acceptable by both chemists and chemistry teachers across all five evaluation criteria. Statistical analysis revealed no significant difference between the two groups' assessments. Nonetheless, several issues were noted, including inconsistencies in product texture, extended drying time, strong odor, limited repellency duration, and concerns about overall product longevity. The results suggest that the developed floor wax formulation demonstrates strong potential as a natural mosquito repellent while also serving as an effective cleaning agent. To maximize its effectiveness and commercial appeal, further studies should aim to fine-tune the concentration of essential oils, enhance the consistency and durability of the product, and resolve formulation-related challenges. These improvements could significantly strengthen its overall performance and market competitiveness.

RECOMMENDED CITATION

Cadalin, S. K., Cleofas, A. T., Delacruz, S., Malawit, M. J., & Martinez, M. R. (2025). Investigatory Project of Lemon Eucalyptus and Citronella Essential Oil as a Mosquito-Repelling Floor Wax. *Ascendens Asia Singapore – Bestlink College of the Philippines Journal of Multidisciplinary Research Abstracts*, 7(3), 8.