

**Extraction and Characterization of Natural Pesticides from Extracts of *Lippia javanica***

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**Abstract**

The long-term application of synthetic insecticides has resulted in residues accumulating in different environmental components. The residues have consequently led to increased environmental pollution, adverse effects on non-target organisms, ecosystems, and human health. Green pesticides have been posted as an alternative to synthetic insecticides in public health sectors. The study focused on the prospects of *Lippia javanica* leaves crude extracts as a green pesticide for insect pest management. Preliminary results showed to have insecticidal, fumigant and repellent activities against mosquitoes. *Lippia javanica* leave extracts are complex chemical compounds with multiple modes of action that enhance their activity due to the synergistic action between constituents. The volatility and solubility of *Lippia javanica* leave extracts were studied, which play an essential role in the *Lippia javanica* activity, application and formulations. The extracts were characterized for physical-chemical parameters, functional groups, phytochemicals and active compounds (organophosphate, carbamates and organochlorides). The results showed the pesticide samples were slightly acidic and quite volatile. There was the presence of carbamates and organophosphorus peaks in the spectra of the samples. The results indicated an abundance of carbamates in the test samples. The test samples showed the presence of terpenes which are essential oils in repelling mosquitoes. Leave extracts were found to have high pesticidal activity.

**Keywords;** green pesticides, *Lippia javanica*, mosquito