

**DEVELOPMENT OF A MOSQUITO REPELLENT
BODYLOTION FROM ESSENTIAL OIL OF
Eucaliptus grandis LEAVES**

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By

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Abstract

Eucalyptus grandis is an introduced timber crop which grows well in up country of Sri Lanka. Main objective of *E. grandis* cultivation is to obtain the timber. But it has a pharmacological importance due to the natural compounds produced as secondary metabolites. Repellency of essential oils of *E. grandis* against mosquitoes has not been studied. This study was conducted to find out the mosquito repellent activity of *E. grandis* species. Essential oil of *E. grandis* is extracted by hydro-distillation of matured leaves. This method was selected by referring previous studies done to extract essential oil from *Eucalyptus* species. Repellency of the essential oil was tested against mosquito species isolated from environment using five different concentrations of oil as 50 µl, 100 µl, 150 µl, 200 µl and 250 µl. Mosquitoes at same age were isolated from monitoring controlled conditions at clean water bath and mosquito identification was done by morphological characteristics and life cycle study. Mosquito species isolated was *Aedes vexans*. 200 µl was the most effective concentration of mosquito repellency. Repellency of oil increased with the time. Mosquito repellent lotion was prepared adding 1 ml of essential oil in to 10 g of base cream. Sensory analysis was conducted to determine the acceptability of the product and results implied that the lotion is acceptable. Repellency time was determined by human trial after testing for allergic reactions where it displayed no allergies. Lotion was applied to a 16cm² area of skin and expose to mosquitoes for five minutes at thirty minute time intervals. Repellency of the lotion was compared against commercial mosquito repellent and results shows that it has different repellency to the commercial repellent. But it had maximum repellency over two hours.

Key words: *Eucalyptus grandis*, essential oil, repellency, body lotion, mosquitoes