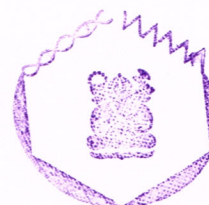


## FORMULATION OF ANTIREPELLENT CREAM CONTAINING CLOVE BUD OIL\*)

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### ABSTRACT

A research on the use of clove bud oil in the making of repellent creams had been carried out. The creams were made in oil in water (o/w) type and water in oil (w/o) type emulsion bases using clove bud oil (*Syzygium aromaticum* L) in 2.5; 5.0 and 7.5 % w/w concentrations. The result shown that creams with 2.5 – 7.5 % w/w concentration of clove bud oil (*Syzygium aromaticum* L) were stable during storage time, except the value of pH dan viscosity. The changes can still be tolerated because it was still in the required pH range for topical preparation and the cream could still be applied well. Various concentration of clove bud oil (*Syzygium aromaticum* L) in creams showed that the repellent activity increased along the addition of clove bud oil (*Syzygium aromaticum* L) into the creams. The strongest activity was given by cream with 7.5 % w/w clove bud oil (*Syzygium aromaticum* L), but still less effective than the innovator product contains DEET (N,N-diethyl-m-toluamide). Result of GC-MS analysis to repellent creams showed that there was eugenol content in clove bud oil used in creams formula as much as 77.65%.

Keywords: Clove bud oil, *Syzygium aromaticum* L, cream, antirepellent

### INTRODUCTION

Insect repellent are products that help block the human odors, chemicals and moisture that mosquitoes and other insect are attracted to. There are natural products that will effectively repel mosquitoes. Numerous natural plant derived repellent have been tested, but most have not proven their effectiveness compared to DEET (N,N-dimethyl-m-toluamid). This plant derived repellent are largely aromatic plant oil including citronella, neem, vanilla, lemongrass pennyroyal and eucalyptus. Efforts have been made by a number of manufacturers to develop topically applied repellent which provide a safe alternative to DEET, and are also safe and effective (Qiu, 1998; Tawatsin, 2001).

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