

ABSTRACT

THE LARVICIDAL PROPERTIES OF VETIVER (*Vetiveria zizanioides*) ESSENTIAL OIL ON THE MORTALITY OF *Aedes aegypti* MOSQUITO LARVAE

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ABSTRACT

Background: *Aedes aegypti* is an important vector for vector-borne diseases, especially Dengue. *Aedes aegypti* mosquito can be found in most part of Indonesia, and can live in both urban and rural area. *Vetiveria zizanioides* essential oil has active compound that can potentially be an alternative for existing larvicide.

Objectives: To find the larvicidal effect of Vetiver essential oil, and determine it by calculating the LC50 and LC90, as well as to find out the dose-effect relationship of Vetiver essential oil.

Methods: *Aedes aegypti* larvae which is on the 5th day of age is exposed to varying concentration of Vetiver essential oil and exposed for 24 hours. Then the result is calculated using probit analysis.

Results: Increased concentration of Vetiver essential oil results in increase of larvae mortality percentage. The LC50 is at 187 ppm and the LC90 is at 344 ppm.

Conclusion: The Vetiver essential oil shows larvicidal activity on *Aedes aegypti* larvae.

Keywords: *Vetiveria zizanioides*, essential oil, *Aedes aegypti* larvae, LC50, LC90