ABSTRACT

Background
Dengue hemorrhagic fever is a disease caused by dengue virus whose main vector was Aedes aegypti. Using natural chemical derived from basil (Ocimum basilicum L.) is one of ways to control dengue in larval stage.

Purpose
This study is to determine the effect of 70% ethanol extract of basil leaves against the third instar of Ae. Aegypti larvae and to determine the levels of LC50 and LC99.

Method
This experiment was done in 8 groups with different concentrations. Zero concentration was used as negative control. It was a mixture of aquades and Tween 20. The other concentrations are 0.2%; 0.3%; 0.4% ;0.5%; 0.75%; 1% and 2%. Each group contained 25 larvae in 100 ml solution of 70% ethanol extract of basil leaves was tested 4 times. Mortality rate was counted after 24 hours of observation. Data was then analyzed by One Way ANOVA, LSD dan Probit analysis to determine LC50 and LC99.

Result
Probit analysis showed that LC50 was 0.763% and LC99 was 1.513%. Based on One Way ANOVA, there were at least two groups of extract concentration of basil leaf (Ocimum basilicum L) that caused significant difference of larvae mortality in groups test (p<0.05). LSD test showed that there were 2 pairs of group that did not have significant difference. They were group I and II (p=1.000) and group III and IV (p = 0.067).

Conclusion
In conclusion, The solution of 70% ethanol extract of basil leaves (Ocimum basilicum L.) has larvicidal effect against third instar larvae of Aedes aegypti with the LC50 0.763% and LC99 1.513%.

Keywords: larvicide, basil leaves (Ocimum basilicum L.), the third instar larvae of Aedes aegypti