

# PENGARUH PEMBERIAN EKSTRAK RIMPANG LENGKUAS (*Alpinia galanga Swartz*) TERHADAP KEMATIAN LARVA *Aedes aegypti*



Dwi Sutiningsih

## Background and Objective

Vector control is still emphasized on the using of chemical insecticide which can cause death of untarget animal, pollution and vector resistance. Therefore, another alternative is used to control DHF vector, which is by using natural insecticide galangal's rhizome extract.

The aim of this research is to find out the effect of giving galangal's rhizome extract to the death of *Ae. aegypti* larvae.

## Research Methods

The method of this research is an experiment with post test only control group design. *Ae. aegypti* larvae are divided into 2 groups, i.e. 9 testing groups and 1 control group. In the testing groups, the galangal's rhizome extract was given to the larvae with 9 concentration i.e. 0,01%; 0,02%; 0,03%; 0,05%; 0,07%; 0,10%; 0,20%; 0,30% and 0,50%. In the control group, the larvae was treated with 100 ml aqudest.



*Alpinia galanga Swartz*

## Result

The result showed that there was no death of larvae in the lowest concentration (0,01%) and 100% larvae's death in the highest concentration (0,50%).

No	Konsentrasi ekstrak rimpang lengkuas (%)	Jumlah larva <i>Ae. aegypti</i> pada setiap pengujian	Jumlah kematian larva <i>Ae. aegypti</i> tiap ulangan			Rata-rata kematian larva <i>Ae. aegypti</i>	Persentase kematian larva <i>Ae. aegypti</i>
			I	II	III		
1	0,01	25	0	0	0	0	0
2	0,02	25	1	0	0	0,3	1,3
3	0,03	25	0	0	1	0,3	1,3
4	0,05	25	4	3	0	2,3	9,3
5	0,07	25	16	2	6	8,0	32,0
6	0,10	25	13	10	17	13,0	53,0
7	0,20	25	25	22	25	24,0	96,0
8	0,30	25	25	25	25	25,0	100,0
9	0,50	25	25	25	25	25,0	100,0
10	Kontrol	25	0	0	0	0	0



Percentage of larval deaths of *Ae. aegypti* in groups treatment with galangal (*A. galanga Sw.*) extract in various concentrations after 24 hours

Kematian larva <i>Ae. aegypti</i> (%)	Konsentrasi ekstrak rimpang lengkuas (%)	Tingkat kepercayaan (%)	Range (%)
50	0,10	5	0,09 < LC < 0,12
90	0,16	5	0,13 < LC < 0,19

Lc50 and LC90 values of galangal (*A. galanga Sw.*) Rhizome extract against larvae *Ae. aegypti*

## Conclusions

It can concluded from this research that there are death of larvae's after giving galangal's rhizome extract at different concentration level. The value of galangal's rhizome extract's Lethal Concentration 50 (LC<sub>50</sub>) to larvae *Ae. aegypti* is 0,10% and value of galangal's rhizome extract's Lethal Concentration 90 (LC<sub>90</sub>) to larvae *Ae. aegypti* is 0,16%. There is a significant difference between the average numbers of *Ae. aegypti* larvae after giving galangal's rhizome extract at different concentration level.

It is needed to do further about an active compound in galangal's rhizome extract which is potential to be natural insecticide.