

Eliminate Mosquito Larvae with Bitter Gourd

Friday, 12 February 2016 WIB, By: Marwati



Dengue fever still poses a threat to the world, including Indonesia as a tropical country that is potential for the spread of the disease. Ministry of Health reported as many as 7,244 cases in 2015.

Preventions have been taken to minimise the prevalence of dengue fever, including with larvicide powder. But continual use of the powder may cause side-effects, pollution, and resistance due to the carcinogenic effects.

But finally, five students of Faculty of Biology of Universitas Gadjah Mada (UGM) have found larvicide that is able to control larvae that is environmentally friendly whilst not causing resistance. The students are Ayu Safitri, Nilahazra Khoirunnisa, Syindi Ariska FP, Diyah Tri Utami, and Adhestya Alfiani that made larvicide from the seeds and fruit of bitter gourds (*Mommordica charantia* L).

Nila said the fruit and seed of bitter gourd contain high alkaloid, flavonoid, saponin, and terpenoid compounds that are able to kill larvae.

“Those compounds are able to kill the nerves and attack the respiratory system that can cause the death of small animals, such as larvae,” she said on Thursday (11/2) at Faculty of Biology UGM.

The students conducted a research on lab scale to *Aedes aegypti* larvae. The larvae is soaked in the

extract of bitter gourd fruit that is dissolved in ethanol for 48 hours. This proved that the extract can kill the larvae.

“The optimal result of bitter gourd fruit extract is at 0,2 gr/100ml concentration that caused the death up to 100 percent. For the seed extract, the concentration is higher, or 0,5 gr/100ml,” said Diyah.

Diyah expected this research would contribute scientific information to society on the alternatives to dengue fever prevention, using bitter gourds.

“In the future a number of further researches are required on the fruit and seed of bitter gourd as alternative larvicide in order to know the effect on other organisms,” she concluded.

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