

UGM Students Produce Herbal Mosquito Repellent

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Dengue fever is still a threat to health in Indonesia. The country is endemic with a prevalence of 43.4% in 2016.

This condition has triggered five UGM students to produce a mosquito repellent formula to prevent the disease. The students are Vika Ichsanita Ninditya, Endah Purwanti, and Ajeng Tyas Utami from Faculty of Veterinary Sciences as well as Aprillyani Sofa Marwaningtyaz and Nadia Khairunnisa from Faculty of Pharmacy.

They make the anti-mosquito liquid from weed, which is the leaves of sudamala (*Artemisia vulgaris*). The leaf is known as having a smell disliked by the mosquito. It grows in the plateau of Wonosobo in Central Java.

Vika said there were many mosquito repellent products already available in the market, but these turned out to be ineffective to avoid mosquito bite and even cause side-effects, such as resistance and health disorders.



So, these students make the mosquito repellent formula from herbs that can prevent mosquito bites, also safe for the person. This is named as ARTS or Artemisia vulgaris, made from the extract of sudamala leaves.

The students first did the efficacy of the leaves extract. The extract was stored in a bottle to which 20 mosquitoes were entered and left for 2 hours.

“Extract of sudamala leaves with a concentrate of 5,700 microgram can kill 50 percent of the mosquitoes in the bottle,” she said on Tuesday (6/6) at UGM.

The next thing was repellent assay test to prove the efficacy of the extract in preventing mosquito bite. The student put their hands that had been sprayed with ARST into a box containing 50 female mosquitoes. This last for five minutes and repeated time and time again for one hour. It proved to be able to prevent the bite.

“None of the mosquitoes sit on the hands,” said Aprillyani.

April said currently they developed the ARTS mosquito repellent in three types, spray, lotion, and cream. They will continue developing the product to be used by the society and to reduce the prevalence of dengue fever.

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