Saponin Anti Larvae Treatment (S.A.L.T)

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S.A.L.T (SAPONIN ANTI LARVAE TREATMENT) - Biolarvicide from Organic Waste Saponin is a secondary chemical compound found in various plant species. The aim of this project is to produce an innovation of the saponin as a biolarvicide obtained from organic waste; the extraction being done from two types of fruits' skin which are the rambutan (Nephelium lappaceum) and dukung (Lansium parasiticum) to eliminate mosquito larvae. In this project, saponin extract obtained from dukung skin is 1.0% and rambutan skin is 1.5%. The saponin extract was then tested on three different species of mosquito larvae namely Aedes aegypti, Aedes albopictus, and Culex quinquefasciatus. Different concentrations of saponin extract, ranging from 0.01g/ml to 0.05 g/ml were tested on the three types of mosquito larvae during their 3rd instar. It showed that 0.01 g/ml of saponin extract can eliminate all the tested mosquito larvae after 60 hours while 0.05 g/ml of saponin extract can eliminate all the larvae after 24 hours. As the concentration of saponin extract increases, the rate of elimination of mosquito larvae increases. The control experiment using only distilled water was also conducted. A commercial larvicide was used to compare its effectiveness on the mortality of the mosquito larvae. It showed that at a concentration of 0.03g/ml, the commercial larvicide eliminated the mosquito larvae within 60 hours whereas the saponin extract can do so at a concentration of 0.01g/ml. In conclusion, the saponin extract from rambutan and dukung skin is able to replace chemical based larvicide; being potent at a lower concentration besides reducing water contamination since it is organic in nature.

Awards Won:

Third Award of $1,000