

ABSTRACT

Sakinah. 2013. **The Effectiveness of Lime (*Citrus aurantifolia* Swingle.) and Carambola (*Averrhoa bilimbi* L.) with Concentration Variation to the Reduction of Lead (Pb) Heavy Metals Concentration on Fur Shells (*Anadara antiquata*).** Theses. Biology Programme Faculty of Science and Technology The State of Islamic University (UIN) Maulana Malik Ibrahim Malang.

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Lead (Pb) is a heavy metal that can cause health problems. Heavy metal pollution of lead (Pb) in the water is also in Pasuruan winding waters. Biota that can be used as indicators of pollution are a group of shellfish, such as fur shells. Natural alternative that can be used to reduce the levels of heavy metals in the body biota is to utilize citric acid solution contained in citrus fruit juice and carambola wuluh. This study aims to determine the effectiveness of a solution of lime and starfruit with various concentrations (5%, 10%, 15%, 20% and 25%) in the lower levels of the heavy metal lead (Pb), with the value organoleptic.

Shellfish samples obtained from TPI Lekok Pasuruan. Heavy metal content analysis conducted at the Laboratory of Chemistry, University of Muhammadiyah Malang (UMM). Organoleptic test by 15 panelists asking the opinion of the level of liking for the taste of the shellfish processed hair after soaking in the marinade ingredients. This study is an experimental study, and data were analyzed using ANOVA, followed by Duncan Range Test.

ANOVA calculation results show that the solution of lime fruit was not significantly different from the solution of carambola in lowering levels of heavy metal lead (Pb) in fur shells. Concentrations can reduce levels of heavy metal lead (Pb) concentrations at most 25%. Lemon solution concentration of 25% can reduce heavy metal lead (Pb) as much as 0.889 ppm (35.32%), whereas carambola wuluh solution concentration of 25% can reduce heavy metal lead (Pb) in fur shell feathers as 0.626 ppm (24, 89%). Soaking shells with lemon solution preferred by the panelists of the immersion solution starfruit fruit. A highest level of organoleptic assessment that the fur shells after soaking treatment with a solution of lime fruit concentration of 5%, ie by 13 panelists (86.67%)

Keywords: Lead (Pb), Lime (*Citrus aurantifolia* Swingle.), Carambola (*Averrhoa bilimbi* L.), Fur Shells (*Anadara antiquata*).