

## ABSTRACT

Rike Ahmad, L.D. 2013. **The Influence of Kayu Apu (*Pistia stratiotes*) Closing Wide Toward The Physical And Chemical Qualities In Various Liquid Waste Of Tahu.** Thesis. Biology Department, Faculty of Science and Technology, Maulana Malik Ibrahim State Islamic University of Malang. 1st Advisor: Dr. Evika Sandi Savitri M.P, 2nd Advisor: Achmad Nasihuddin, M.A.

**Keywords :** Apu's wood (*Pistia stratiotes*), chemical and physical characteristics, liquid waste of tahu

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The liquid waste of Tahu is a house hold waste disposal that causes the contamination's problem that is affected to the environment. The characteristics of liquid waste of Tahu has the high temperature (32,0 – 38,60 C), has acid characteristic (3,8), smelled, contains high organic substance: (BOD = 324.41 mg/l), (COD = 275.89 mg/l), suspension matter (TSS = 6900 mg/l), DO (4.15 mg/l), and high nitrate (N-NO<sub>3</sub>) on 90.71 mg/l. The liquid waste of Tahu can be processed biologically by using Kayu Apu (*Pistia stratiotes*) water plant by measuring the parameter of chemical and physical characteristics from the liquid waste of Tahu. The research's purpose is to know the ability of Kayu Apu's plant (*Pistia stratiotes*) in order to improve the physical and chemical qualities of the liquid waste of Tahu in different closing wide and waste concentration. The physical and chemistry's qualities analysis of the liquid waste of Tahu was tested in Chemistry's laboratory of Muhammadiyah University of Malang. The parameters of chemical characteristic of the liquid waste of Tahu are BOD, DO, pH dan Nitrat (N-NO<sub>3</sub>) while the parameter of physical characteristic is TSS. This research uses Rancangan Acak Lengkap (RAL) that is composed by two factors and three replays. The first factor of Kayu Apu (*Pistia stratiotes*) closing wide is divided into three parts; closing wide 0% (L<sub>1</sub>), without water plant = control, closing wide 50% (L<sub>2</sub>), closing wide 100% (L<sub>3</sub>). The second factor is the liquid waste of Tahu that is also divided into three parts; Concentration 50% (K<sub>1</sub>), Concentration 75% (K<sub>2</sub>), and Concentration 100% (K<sub>3</sub>). This observation was done in ten days. The data analysis is by using ANOVA Two Way. Therefore, it is continued by uji jarak duncan (UJD) and it is compared with the quality standard of industrial liquid waste.

Based on the test result of ANOVA Two Way that is continued with uji jarak Duncan (UJD), it showss that the concentration on liquid waste of tahu which is able to be improved the physical and chemical characteristics is on concentration 50%there is an improvement of chemical and physical characteristics from the liquid waste of Tahu after the treatment using Kayu Apu (*Pistia stratiotes*) that is concentration 50% , that is included on the 1 st group while 75% on the 2 nd group and 100% on the 3 rd group. The closing wide of kayu apu that is able to be increased the physical and chemical qualities of liquid waste of tahu is on closing wide 100 % that is exist on the 1 st group while the closing wide 50% is on the 2 nd group, quality standart of industrial liquid waste. The wide closing 100% of Kayu Apu and Concentration 50% of liquid waste of Tahu show the good quality in increasing the chemical and physical qualities of the water of liquid waste of Tahu.