

ABSTRACT

THE EFFECT OF FISHING NET AND BIOBALL BIOFILTRATION METHODS WITH CONTACT TIME VARIATIONS IN REDUCE BOD AND COD LEVELS IN TOFU WASTE

Muhammad Fikri Abdullah¹, Sunaryo, SST.MM², Beny Suyanto, S.Pd.M.Si³

Indonesian Ministry of Health
Health Polytechnic of the Ministry of Health Surabaya
Sanitation Study Program Campuss III Diploma Program
Matean Departemen of Environmental Health
Email : nyente0@gmail.com

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BOD is a parameter to assess the amount of dissolved organic matter and shows the amount of oxygen required by microbial activity and decomposes organic substances biologically in wastewater. COD is the amount of oxygen required by the oxidizing agent to oxidize all organic and inorganic materials in water. The reduction of BOD and COD was carried out using biofiltration with variations in contact time. The purpose of this study was to determine the effect of the biofiltration method of fishing nets and bioballs with variations in contact time in reducing BOD and COD levels in tofu waste.

This type of research is pre-experimental with univariate analysis method. The sample of this study was tofu waste water at the Soloono Tofu Factory with the subject being biofiltration of fishing nets and bioballs and the object being variations in time, BOD and COD levels. In the manufacture of microorganisms in fish nets and bioball media by acclimatization for 7-14 days. The sampling technique of this research uses the sample grab method.

The results of the study found that the average percentage decrease in BOD levels with variations in time of 4 hours, 5 hours and 6 hours was 33.33%, 45.24% and 73.61%, and the average percentage reduction in COD levels with a time variation of 4 hours, 5 hours and 6 hours by 18.54%, 50.77% and 75.29%. The results of the analysis concluded that all variations of the contact time of the biofiltration of fishing nets and bioballs can reduce the levels of BOD and COD in the liquid waste of the Solaono tofu factory and the value of the levels of BOD and COD meets the requirements according to the quality standards in East Java Governor Regulation Number 72 of 2013.

With the effect of decreasing BOD and COD levels, it is recommended for other researchers to conduct research on wastewater parameters that exceed the quality standard and have not conducted research with the same or appropriate method.

Keywords : Tofu Wastewater, BOD, COD, Biofiltration