

Politeknik kesehatan kemenkes bandung
Program studi sarjana terapan sanitasi lingkungan
Skripsi, Oktober 2021

Abstrak

Irham Riandi

**PERBEDAAN KETEBALAN MEDIA FILTER ARANG SEKAM PADI TERHADAP
PENURUNAN KEKERUHAN PADA AIR BERSIH DI PT. LINICO INDONESIA**

ix + 71 halaman + 14 Tabel + 7 gambar + 4 lampiran

Air bersih PT. Linico Indonesia bersumber dari air tanah. Nilai kekeruhan pada air bersih PT. Linico Indonesia setelah dilakukan pemeriksaan adalah 189 NTU dan melebihi baku mutu. Maka dilakukan proses filtrasi dengan media filter arang sekam padi. Tujuan : menurunkan nilai kekeruhan dan mengetahui perbedaan efektivitas ketebalan media filter arang sekam padi dengan tiga variasi yaitu ketebalan 30 cm, 40 cm, dan 50 cm. Jenis penelitian : eksperimen dengan desain *penelitian pretest-posttest without control*. Populasi : seluruh air bersih yang digunakan di PT. Linico Indonesia. Pengambilan sampel dilakukan dengan teknik grab sampling. Pemeriksaan nilai kekeruhan di laboratorium, pengukuran suhu dan pH air bersih. Alat pengumpul data : turbidity meter, thermometer air, dan pH meter. Hasil penelitian : rata-rata nilai kekeruhan awal pada air bersih yaitu 189 NTU. Rata-rata nilai kekeruhan setelah dilakukan proses filtrasi dengan media arang sekam padi dengan ketebalan 30 cm mendapatkan nilai yaitu 21,5 NTU dengan persentase penurunan 83,75% sedangkan pada ketebalan media arang sekam padi 40 cm mendapatkan nilai yaitu 18,2 NTU dengan persentase penurunan 88,92%, kemudian dengan ketebalan media arang sekam padi 50 cm mendapatkan nilai yaitu 14,6 NTU dengan persentase penurunan 91,27%. Hasil uji statistik dengan uji One-Way Anova : p. value $0,001 < 0,05$ sehingga terdapat perbedaan efektivitas ketebalan media filter arang sekam padi terhadap penurunan nilai kekeruhan air bersih. Saran : melakukan perawatan secara berkala dengan perlakuan backwash minimal satu hari sekali agar kotoran yang tertahan dapat dibersihkan

Daftar Pustaka : 21 (1991-2018)

Kata kunci : ketebalan, arang sekam padi, kekeruhan

Health Polytechnic, Ministry of Health, Bandung
Environmental sanitation applied undergraduate study program
Thesis, October 2021

Abstract

Irham Riandi

**DIFFERENCES OF RICE HUSK CHARCOAL FILTER MEDIA THICKNESS
TOWARDS TURBIDITY REDUCTION IN CLEAN WATER IN PT. LINICO
INDONESIA**

ix + 71 pages + 14 Tables + 7 pictures + 4 attachments

Clean water PT. Linico Indonesia is sourced from groundwater. The value of turbidity in the clean water of PT. Linico Indonesia after inspection is 189 NTU and exceeds the quality standard. Then the filtration process is carried out with rice husk charcoal filter media. Objective: to reduce the value of turbidity and to determine the effectiveness of the thickness of the rice husk charcoal filter media with three variations, namely the thickness of 30 cm, 40 cm, and 50 cm. Type of research: experimental research design pretest-posttest without control. Population : all clean water used in PT. Linico Indonesia. Sampling was done by grab sampling technique. Examination of turbidity values in the laboratory, measurement of temperature and pH of clean water. Data collection tools: turbidity meter, water thermometer, and pH meter. The results: the average initial turbidity value in clean water is 189 NTU. The average turbidity value after the filtration process with rice husk charcoal media with a thickness of 30 cm got a value of 21.5 NTU with a percentage decrease of 88.75% while at a thickness of 40 cm rice husk charcoal media got a value of 18.2 NTU with a percentage a decrease of 88.92%, then with a thickness of 50 cm rice husk charcoal media get a value of 14.6 NTU with a percentage decrease of 91.27%. Statistical test results with One-Way Anova test: p. value 0.001 <0.05 so that there is a difference in the effectiveness of the thickness of the rice husk charcoal filter media on the decrease in the turbidity value of clean water. Suggestion: carry out regular maintenance with backwash treatment at least once a day so that the retained dirt can be cleaned

Bibliography : 21 (1991-2018)

Keywords: thickness, rice husk charcoal, turbidity