Politeknik Kesehatan Kemenkes Bandung
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ABSTRAK

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PERBEDAAN VARIASI JUMLAH *TUBE SETTLER* TERHADAP PENURUNAN KADAR *TOTAL SUSPENDED SOLID* (TSS) AIR LIMBAH PABRIK TAHU DI PABRIK TAHU X PADA WILAYAH KERJA PUSKESMAS CINUNUK

Kajian di Pabrik Tahu di Desa Cinunuk Kecamatan Cileunyi Bandung

Vii+ 63 Halaman + 11 Tabel + 14 Gambar + 6 lampiran

Pabrik Tahu X beroprasi setiap hari dan telah berdiri selama 11 tahun. Sisa produksi berupa air limbah tahu yang dibuang langsung ke dalam aliran sungai terdekat tanpa adanya pengolahan terlebih dahulu, air limbah tahu terlihat keruh, setelah dilakukan pemeriksaan awal limbah tahu tersebut memiliki kadar Total Suspended Solid (TSS) 267 mg/L, 301 mg/L dan 236 mg/L hasil pemeriksaan tersebut melebihi baku mutu 200 mg/L. Penurunan kadar TSS dapat dilakukan menggunakan metode gravitasy dan laju penahan flok dalam hal ini ialah metode *Tube Settler.*

Desain penelitian ini berupa penelitian eksperimen dengan rancangan *pre post test without control*, dengan jumlah 6 kali pengulangan. Lokasi Penelitian terletak di salah satu pabrik tahu di Desa Cinunuk Kecamatan Cileunyi Kabupaten Bandung dengan sampel air limbah tahu. Mekanisme penelitian ini yaitu dengan cara mengontakkan air limbah tahu dengan bak yang dimodifikasi dengan penambahan media penahan flok berupa tube settler dengan sistem alir downflow dengan variasi jumlah tube settler 15 tube, 20 tube, dan 25 tube. Hasil pengujian penelitian yang dilakukan sebanyak 6 kali pengulangan didapatkan rata-rata presentase penurunan kadar TSS setelah dilakukan perlakukan oleh bak pengolahan tube settler dengan jumlah tube variasi 15 tube sebesar 9%, variasi 20 tube sebesar 21% dan 25 tube sebesar 28%. Berdasarkan uji *kruskall wallis* bahwa terdapat perbedaan setiap variasi jumlah *tube settler* terhadap penurunan kadar TSS pada air limbah pabrik tahu. Presentase yang paling tinggi terdapat pada variasi 25 tube yaitu sebesar 29%. Sehingga dapat disimpulkan bahwa semakin banyaknya tube yang digunakan pada bak pengolah air limbah tahu akan berpengaruh terhadap penurunan kadar TSS. Dari ketiga variasi jumlah tube settler 15 tube, 20 tube dan 25 tube dapat menurunkan kadar TSS air limbah tahu, dengan variasi yang efektif terdapat pada variasi 25 tube.

DAFTAR PUSTAKA : 15 (2004-2019)

KATA KUNCI : Air Limbah, TSS, Bak *Tube Settler*, Variasi Jumlah.

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ABSTRACT

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THE DIFFERENCE OF TUBE SETTLER AMOUNT TO REDUCTION OF TOTAL SUSPENDED SOLID (TSS) WASTE WATER FACTORY TOFU X IN IN HEALTH SERVICES AREA OF PUSKESMAS CINUNUK

Study at Tofu Factory in Cinunuk Village, Cileunyi District, Bandung

Vii + 63 Pages + 11 Tables + 14 Pictures + 6 attachments

This study aims to determine the difference in the number of tube settlers in the tofu wastewater treatment system to reduce the level of Total Suspended Solid (TSS) in tofu waste water before being given treatment and after being given treatment. The benefit of this research is to provide an overview of tofu factory wastewater treatment, with the design of wastewater treatment using a treatment tub with the addition of floc retaining media, namely tube settlers to reduce TSS levels in tofu wastewater so that it can be an action implementation of theory and literature for readers. The research design was an experimental study with a pre-post test design without control, with a total of 6 repetitions. The research location is located in one of the tofu factories in Cinunuk Village, Cileunyi District, Bandung Regency with samples of tofu waste water. The mechanism of this research is to contact the tofu wastewater with a modified tub with the addition of a floc holding medium in the form of a tube settler with a downflow flow system with a variation of the number of tube settlers 15 tubes, 20 tubes, and 25 tubes. The results of research tests carried out 6 times the average percentage reduction in TSS levels after being treated by a tube settler processing tub with 15 tube variations of 9%, 20 tube variations of 21% and 25 tubes of 28%. Based on the Kruskall Wallis test, there is a difference in each variation in the number of tube settlers to reduce TSS levels in tofu factory wastewater. The highest percentage is found in the variation of 25 tubes which is 29%. So it can be concluded that the increasing number of tubes used in the tofu wastewater treatment tub will affect the decrease in TSS levels. Of the three variations in the number of tube settlers, 15 tubes, 20 tubes and 25 tubes can reduce TSS levels of tofu waste water, with an effective variation found in the 25 tube variation.

REFERENCES: 15 (2004-2019)

KEY WORDS: Wastewater, TSS, Tube Settler Tub, Variation of Amount.