

ABSTRAK

Industri tahu menjadi industri rumahan yang banyak di Indonesia, salah satunya terletak di kota Perdagangan. Industri Tahu Gimán memiliki kapasitas produksi kedelai 400 kg/hari dengan total volume air limbah 8.000 L/hari. Industri Tahu Gimán beroperasi selama 9 jam. Limbah cair industri tahu berasal dari proses pencucian, perebusan, pengepresan, dan pencetakan. Kandungan pencemar organik pada limbah cair industri tahu relatif tinggi. Hasil uji coba Laboratorium menunjukkan bahwa *Biological Oxygen Demand* (BOD) adalah 50,5 mg/L, *Chemical Oxygen Demand* (COD) adalah 130 mg/L, Total Padatan Tersuspensi (TSS) adalah 135 mg/L, dan pH 5. Dari hasil penelitian ini dapat diketahui bahwa kualitas limbah cair pada Industri Tahu Gimán belum memenuhi syarat baku mutu. Mengingat potensi pencemaran limbah cair industri tahu terhadap lingkungan, maka perlu dilakukan pengolahan limbah tahu secara tepat dan benar. Proses pengolahan limbah cair tahu menggunakan fitoremediasi tanaman eceng gondok merupakan satu metode yang dipilih untuk mengolah limbah cair industri tahu ini. Hasil uji coba Laboratorium setelah memasuki percobaan bak ekualisasi, bak sedimentasi dan bak fitoremediasi. COD adalah 39,5 mg/L, BOD 20,5 mg/L, dan TSS 22,5 mg/L, dan pH 6. Sesuai dengan Permen LHK No. 68 Tahun 2016, nilai kualitas efluen telah mencapai persyaratan baku mutu.

Kata kunci : Limbah Tahu, Fitoremediasi, Eceng Gondok, Kualitas Air.

ABSTRACT

The tofu industry is one of the home industry in Indonesia, one of which is located in the city of Perdagangan. Gimán Tofu Industry has a soybean production capacity of 400 kg/day with a total waste water volume of 8,000 L/day. Gimán Tofu Industry operates for 9 hours. Tofu industry liquid waste comes from washing, boiling, pressing, and printing processes. The organic pollutant content in tofu industrial wastewater is relatively high. The results of Laboratory trials show that Biological Oxygen Demand (BOD) was 50,5 mg/L, Chemical Oxygen Demand (COD) was 130 mg/L, Total Suspended Solids (TSS) was 135 mg/L, and pH was 5. From the results of this study it can be seen that the quality of liquid waste in the Gimán Tofu Industry does not meet the quality standard requirements. Given the potential pollution of tofu industrial wastewater to the environment, it is necessary to treat tofu waste properly and correctly. The process of processing tofu liquid waste using phytoremediation is one of the methods chosen to treat this tofu industrial wastewater. Results of Laboratory trials after entering the experiment of equalization tanks, sedimentation tanks and phytoremediation tanks, infiltration wells. The estimated COD value of the effluent treated from WWTP is 39,5 mg/L, BOD 20,5 mg/L, and TSS 22,5 mg/L, and pH 6. In accordance with Minister of Environment and Forestry No. 68 of 2016, the effluent quality value has reached the quality standard requirements.

Keywords : *Tofu Waste, Phytoremediation, Water Hyacinth, Water Quality*