ABSTRAK

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UJI COBA PENGOLAHAN LIMBAH LINDI MENGGUNAKAN METODE SUB SURFACE FLOW WETLANDS DENGAN VEGETASI TANAMAN LIDI AIR

xv + 38 Halaman + 5 Gambar + 5 Tabel + 3 Lampiran

Lindi merupakan air pembusukan sampah organik yang tidak diolah dengan baik. Hasil observasi di Tempat Pembuangan Akhir (TPA) Jabon effluent limbah lindi secara fisik terlihat masih pekat. Hasil pemeriksaan laboratorium parameter BOD 4085 mg/L dan COD 1456 mg/L. Kandungan BOD dan COD lindi yang tinggi perlu dilakukan pengolahan lanjutan. Tujuan dari penelitian ini untuk mengetahui kemampuan metode Sub Surface Flow Wetlands dalam menurunkan kandungan COD dan BOD limbah lindi menggunakan media tanaman lidi air.

Metode penelitian ini menggunakan Pre-Experimental Design. Penelitian ini menggunakan *Post-test only design*. Pada reaktor *Sub Surface Flow Wetlands* dilakukan perlakuan menggunakan tanaman lidi seberat 700 gram, 800 gram, dan 900 gram dengan umur tanaman 12 bulan. Dengan waktu tinggal selama lima hari. Dikontrol pada suhu 28^0C dan pH 7. Analisis data yang digunakan uji *one way anova.*

Metode *Sub Surface Flow Wetlands* dengan vegetasi tanaman lidi air variasi berat tanaman 900 gram terbukti lebih efektif dalam menurunkan kadar BOD dengan hasil 87.59 mg/L. Kadar COD variasi berat tanaman 900 gram terbukti efektif dalam menurunkan angka limbah lindi dengan hasil 302 mg/L.

Disarankan untuk penelitian selanjutnya perlu ditambah waktu tinggal serta menambah variasi berat tanaman untuk mendapat hasil yang lebih baik dan sesuai dengan standar baku mutu air limbah PMLHK No.59 Tahun 2016.

Kata kunci : Limbah Lindi, Sub Surface Wetlands, Tanaman Lidi Air

Daftar Bacaan : 27 (1998-2020)

ABSTRACT

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TRIAL OF LEACHATE WASTE TREATMENT USING THE SUB SURFACE FLOW WETLANDS WITH WATER STICK PLANT VEGETATION

xv + 38 Pages + 5 Figure+ 5 Table+ 3 Appendix

Leachate is water from decaying organic waste that is not treated properly. The results of observations at the Jabon Final Disposal Site (TPA) of the leachate waste effluent physically look still thick. The results of laboratory examination parameters BOD 4085 mg/L and COD 1456 mg/L. The high content of BOD and COD of leachate requires further processing. The purpose of this study was to determine the ability of the Subsurface Flow Wetlands method in reducing the COD and BOD content of leachate waste using water stick plant media.

This research method uses Pre-Experimental Design. This study used a post- test only design. In the SubSurface Flow Wetlands reactor, treatment was carried out using sticks weighing 700 grams, 800 grams, and 900 grams with a plant age of 12 months. With a stay of five days. Controlled at a temperature of 280 C and pH
7. Data analysis used one way anova statistical test.

The *Subsurface Flow Wetlands* with 900 gram plant weight variation was proven to be more effective in reducing BOD levels with a yield of 87.59 mg/L. COD levels of 900 grams of plant weight variation proved to be effective in reducing the amount of leachate waste with a yield of 302 mg/L.

For further research, it is necessary to increase the residence time and increase the variation in plant weight to get better results and in accordance with the PMLHK wastewater quality standards No.59 of 2016.

Keywords : Leachate, Sub Surface Wetlands, Water Stick Plant

Reading List : 27 (1998-2020)