ABSTRAK

Bahagia Salote, 2014 Pengaruh Filtrasi Kapuk Terhadap Penurunan Kadar Merkuri Di Air Sungai Berdasarkan Waktu Perebusan. Skripsi, Jurusan Kesehatan Masyarakat, Fakultas Ilmu-Ilmu Kesehatan Dan Keolahragaan, Universitas Negeri Gorontalo. Pembimbing I Dra. Hj. Rani Hiola, M.Kes Dan Pembimbing II dr. Sri Manovita Pateda, M.Kes

Pencemaran limbah dari proses pengolahan tambang emas menimbulkan dampak negatif terhadap lingkungan. Salah satu contoh dari logam berat yaitu merkuri (Hg) yang terakumulasi ke lingkungan dapat menimbulkan penyakit bagi manusia serta dapat meracuni hewan, tumbuhan, dan mikroorganisme. Salah satu cara untuk mengurangi kadar merkuri (Hg) yaitu dengan adsorpsi menggunakan serat kapuk. Rumusan masalah dalam penelitian ini yaitu apakah ada pengaruh filtrasi kapuk terhadap pencemaran kadar merkuri berdasarkan waktu perebusan. Tujuan penelitian ini adalah mengetahui pengaruh filtrasi kapuk dalam mengurangi kadar merkuri di air sungai Pasolo berdasarkan waktu perebusan.

Penelitian ini merupakan penelitian eksperimental dengan desain pra eksperimen. Populasi adalah air yang ada di sungai Pasolo, sedangkan sampelnya yaitu sebanyak 7 L air yang di ambil dari sungai Pasolo. Teknik analisis data yang digunakan dalam penelitian ini adalah uji *kruskal wallis.*

Berdasarkan hasil analisis dengan menggunakan kruskal wallis adalah 0,027 atau nilai probabilitas di bawah 0,05 (0,027 < 0,05). Disimpulkan bahwa Terdapat pengaruh filtrasi kapuk dalam mengurangi kadar merkuri di air sungai Pasolo berdasarkan variasi waktu perebusan (15 menit, 20 menit dan 25 menit). Penurunan optimum kadar merkuri di air terjadi pada waktu perebusan 25 menit dengan penurunan mencapai 4,53%. Disarankan Kepada masyarakat agar dapat memanfaatkan kapuk sebagai salah satu alternatife dalam penurunan kadar merkuri di air. Melihat efektifitas serat kapuk dalam penyerapan partikel logam sangat baik, sehingga dapat dikembangkan.

Kata Kunci : Merkuri, Adsorpsi, Serat Kapuk

ABSTRACT

Bahagia Salote, 2014. The Influence of Kapuk's Filter in Lowering the Level of Mercury in the River Water Based on the Length of Boiling Time. Skripsi, Public Health Department, Faculty of Health Sciences and Sports, State University of Gorontalo. The principal supervisor was Dra. Hj, Rani Hiola, M.Kes and Co-supervisor was dr. Sri Manovita Pateda, M. Kes.

Pollutant material form the gold mining waste causes negative impact to the environment. One of the heavy metal residue from the gold mining is Mercury (Hg) which can accumulate in the environment and causes health problem for human and can poisoned the animal, plants, and microorganism. One of the ways to reduce the level of mercury is through absorbing it with the kapuk fiber. The problem statement of this research was whether there is an influence of kapuk filter toward the level of mercury based on the length of boiling time. The objective of this research was to find out the influence of kapuk filter in reducing the level of mercury in Pasolo River water based on the length of boiling time.

This research was an experimental research with the pre-experiment design. The population of this research was the water of Pasolo River, from this population 7 liters of water was taken. The data were analyzed using the kruskal wallis test.

Based on the kruskal wallis analysis, the value was .027 or the probability value was below .05 (.027 <.05). It is concluded that there is an influence of the usage of kapuk as filter in reducing the level of mercury in Pasolo river water based on the variation of boiling time (15minutes, 20 minutes, and 25 minutes). The optimum reduction of mercury level happened in the 25 minutes boiling time with 4.53%. It is recommended to the community to use kapuk as one of the alternative in reducing the level of mercury in the water. Due to the effectiveness of kapuk fiber to absorb the metal particle it is possible to further developed.

Keywords: Mercury, Absorption, Kapuk Fiber