



PEMANFAATAN RUMPUT BEBEK (*Lemna minor L.*) SEBAGAI AGEN FITOREMEDIASI TIMBAL

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INTISARI

Peningkatan aktivitas manusia dalam berbagai aspek kehidupan sering kali disertai dengan peningkatan volume limbah pencemar, antara lain limbah rumah tangga atau domestik, yang terakumulasi dalam ekosistem akuatik. Logam seperti Zn, Cr, Cd, Cu, Hg, dan Pb terdeteksi dalam limbah rumah tangga. Penurunan konsentrasi logam tersebut dapat dilakukan melalui fitoremediasi. Penelitian dilakukan untuk mengevaluasi kemampuan rumput bebek (*Lemna minor L.*) dalam menurunkan konsentrasi timbal (Pb) dalam air limbah rumah tangga. Penelitian ini rumput bebek dengan berat 20, 25, dan 30 gram ditumbuhkan pada air limbah selama 7 hari, kemudian dianalisis konsentrasi Pb dalam air limbah dan rumput bebek. Hasil penelitian menunjukkan bahwa rumput bebek dapat menyerap Pb dan menurunkan konsentrasi Pb dalam air limbah. Rumput bebek sebesar 20 gram dan 30 gram mampu menurunkan konsentrasi Pb dalam air limbah sebesar 75%.

KATA KUNCI: Fitoremediasi, *Lemna minor L.*, Timbal



THE UTILIZATION OF DUCKWEED (*Lemna minor* L.) AS A PHYTOREMEDIATION AGENT FOR LEAD

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ABSTRACT

Increased human activity in various aspects of life is often accompanied by increased polluting waste, including household or domestic waste, entering aquatic ecosystems. Metals such as Zn, Cr, Cd, Cu, Hg, and Pb were detected in the domestic waste. Reducing the concentration of these metals can be done through phytoremediation, a process that uses plants to remove, degrade, or contain contaminants in soil and water. The purpose of this study is to assess the ability of duckweed (*Lemna minor* L.) to decrease the levels of lead (Pb) in the domestic waste. In this research, duckweed weighing 20, 25, and 30 grams was grown in wastewater for 7 days and then analyzed for Pb concentration. The results showed that duckweed can absorb Pb and reduce the concentration of Pb in wastewater. Duckweed of 20 grams and 30 grams reduced Pb concentration in wastewater by 75%.

Keywords: Lead, *Lemna minor* L., Phytoremediation