ABSTRACT

Pig farm waste often pollutes the environment biologically, especially water, therefore a phytoremediation technique is needed through genjer plants to remove environmental pollutants from water. The purpose of this study was to determine the effect of ammonia and BOD levels on pig farm wastewater using genjer plants. This type of research used quasi-experimental (quasi-experimental), the research design used pretest - posttest Nonequivalent control group design. The results in this study were that the content of Ammonia and BOD in pig farm wastewater before being given treatment was Ammonia 10.0 mg/L and BOD 1906 mg/L. There is an effect of exposure time by reducing phytoremediation using genjer plants on Ammonia and BOD levels in pig farm wastewater. Exposure for 18 hours was able to reduce Ammonia levels by 8.98 mg/L and BOD levels by 1141 mg/L. Exposure for 24 hours was able to reduce Ammonia levels by 10.0 mg/L and BOD levels by 1447 mg/L.

Keywords: Phytoremediation, Genjer Plant, Ammonia Levels, BOD, Liquid Waste, Pig Farming

ABSTRACT

Limbah peternakan babi seringkali mencemari lingkungan secara biologis terutama air oleh karena itu di perlukan teknik fitoremediasi melalui tanaman genjer untuk menghilangkan polutan lingkungan dari air. Tujuan penelitian ini adalah Untuk mengetahui pengaruh kadar amonia dan BOD pada limbah cair peternakan babi dengan menggunakan tanaman genjer. Jenis penelitian yang digunakan eksperimen semu (quasi-eksperimental), rancangan penelitian yang digunakan pretest - posttest Nonequivalent control group design. Hasil dalam penelitian ini adalah kandungan Amonia dan BOD pada limbah cair peternakan babi sebelum diberikan perlakuan adalah, Amonia 10,0 mg/L dan BOD 1906 mg/L. Ada pengaruh waktu pemaparan dengan penurunan fitoremediasi menggunakan tanaman genjer terhadap kadar Amonia dan BOD pada limbah cair peternakan babi. Pemaparan selama 18 jam mampu menurunkan kadar Amonia sebabyak 8,98 mg/L dan Kadar BOD sebanyak 1141 mg/L. Pemaparan selama 24 jam mampu menurunkan kadar Amonia sebanyak 10,0 mg/L dan kadar BOD sebanyak 1447mg/L.

Kata Kunci : Fitoremediasi, Tanaman Genjer, Kadar Amonia, BOD, Limbah Cair, Peternakan Babi