ABSTRAK

Belum maksimalnya pengolahan sampah sayur di pasar Bukit Surungan Kota Padang Panjang. Menyebabkan banyaknya sampah sayur yang terbengkalai, sehingga dibutuhkan pengolahan yang tepat dalam mengatasi sampah sayur. Teknologi composting menjadi solusi tepat dalam mengatasi sampah sayur di Pasar Sayur Bukit Surungan Kota Padang Panjang. Metode pengomposan yang digunakan adalah pengomposan dengan Takakura Susun dan penambahan EM4 (Effektive Microorganism) dengan variasi penambahan sampah organik per 1 hari, 3 hari, 5 hari, dan 7 hari. Hasil dari penelitian ini menujukkan bahwa dalam waktu 12 hari kompos sudah dapat digunakan, dengan perlakukan penambahan sampah organik setiap hari selama 7 hari berturut- turut. Adapun kandungan kompos yang dihasilkan menunjukan kadar rasio C/N sebesar 10.96, karbon 12.50 dengan sifat fisik kompos berwarna kehitaman, berbau tanah, dan bertekstur seperti tanah dengan kadar air 19 %, suhu 270C dan pH 6.8.

Kata kunci: sampah organik, kol dan sawi, kompos, EM4

ABSTRACT

PT.”X” is a palm oil plantation and processing industry. Location of housing PT. “X” does not enter the drinking water service area due to limited access. This requires employees who live in the mess to use groundwater in the form of wells to meet their daily needs. Based on the initial characteristic test of the well water sample, the values for the parameters BOD 21 mg/L, COD 25 mg/L, and Turbidity 33 NTU were obtained. This study aims to determine the effectiveness of water hyacinth in reducing BOD and COD levels, and banana peel activated charcoal in reducing turbidity levels. The research method used is an experiment using variations in weight of activated charcoal, variations in stirring speed, and variations in stirring contact time. The results of this study showed that the mixture of water hyacinth activated charcoal and banana peel activated charcoal was able to reduce BOD, COD, and turbidity levels according to quality standards with variations in weight of 2 g EG : 4 g KP, stirring speed 230 rpm, and contact time 9 hours. Adsorption on BOD and turbidity parameters followed the type of Freundlich isotherm. If following the Freundlich isotherm, the adsorption occurs by multilayer physisorption. While the COD parameters follow the Langmuir isotherm type.

Keywords: *Activated Charcoal, Banana Skin, Oil Palm, Water Hyacinth*