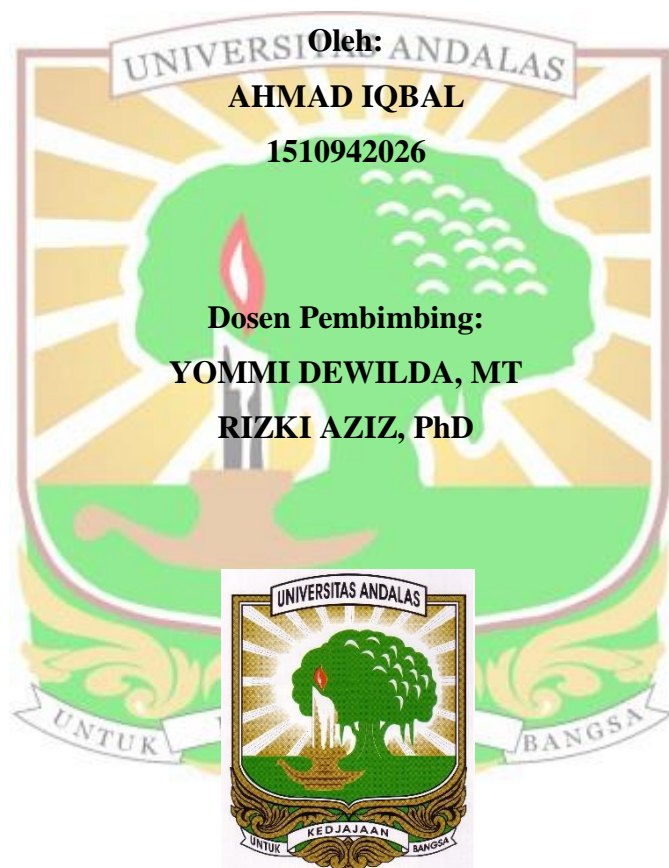


**ANALISIS TIMBULAN, KOMPOSISI DAN KARAKTERISTIK
LIMBAH PADAT KELAPA SAWIT DI PT X**

TUGAS AKHIR

Sebagai salah satu syarat untuk menyelesaikan
Program Strata-1
Jurusan Teknik Lingkungan
Fakultas Teknik Universitas Andalas

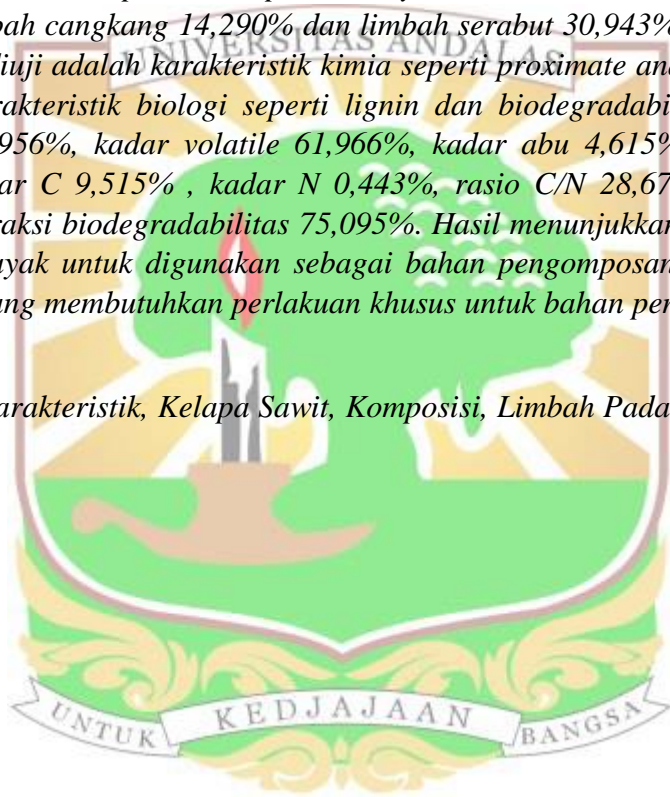


**JURUSAN TEKNIK LINGKUNGAN
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ABSTRAK

PT X bergerak di bidang pengolahan kelapa sawit. Selain menghasilkan hasil produk utama seperti minyak sawit, juga menghasilkan produk sampingan berupa limbah padat. Limbah padat hasil pengolahan kelapa sawit berupa limbah tandan kosong sawit, limbah cangkang dan limbah serabut. Penelitian ini untuk menganalisis timbulan, komposisi dan karakteristik limbah padat PT X. Sampling timbulan dan penentuan jumlah sampel berdasarkan purposive sampling karena keterbatasan perizinan selama pandemi COVID-19. Hasil Penelitian menunjukkan satuan timbulan limbah padat PT X sebesar 0,035 ton/ha/hari. Timbulan limbah padat sebesar 161.567,250 ton/tahun. Komposisi limbah padat dari timbulan limbah padat kelapa sawit yaitu limbah tandan kosong sawit 54,767%, limbah cangkang 14,290% dan limbah serabut 30,943%. Karakteristik limbah yang diuji adalah karakteristik kimia seperti proximate analysis dan rasio C/N serta karakteristik biologi seperti lignin dan biodegradabilitas. Rata-rata kadar air 22,956%, kadar volatile 61,966%, kadar abu 4,615%, fixed carbon 10,463%, kadar C 9,515% , kadar N 0,443%, rasio C/N 28,672, kadar lignin 2,823% dan fraksi biodegradabilitas 75,095%. Hasil menunjukkan bahwa limbah padat sawit layak untuk digunakan sebagai bahan pengomposan. Namun untuk limbah cangkang membutuhkan perlakuan khusus untuk bahan pengomposan.

Kata kunci: Karakteristik, Kelapa Sawit, Komposisi, Limbah Padat, Timbulan



ABSTRACT

PT X is engaging in palm oil processing. In addition to producing main products such as palm oil, it also produces by-products in the form of solid waste. Solid waste from palm oil processing is in the form of empty oil palm fruit bunches, shell waste and fiber waste. This study to analyze the generation, composition and characteristics of solid waste PT X. Generating sampling and determining the number of samples based on purposive sampling due to limited licensing during the COVID-19 pandemic. The results showed that the solid waste generation unit for PT X was 0,035 tons/ha/day. Solid waste generation is 161.567,250 tons/year. The composition of solid waste from the generation of palm oil solid waste namely waste of empty palm oil bunches 54,767%, shell waste 14,290% and fiber waste 30,943%. The characteristics of the waste tested were chemical characteristics such as proximate analysis and C/N-ratio as well as biological characteristics such as lignin and biodegradability. The average moisture content is 22,956%, volatile content is 61,966%, ash content is 4,615%, fixed carbon is 10,463%, C content is 9,515%, N content is 0,443%, C/N ratio is 28,672, lignin content is 2,823% and biodegradability fraction is 75,095%. The results show that palm oil solid waste is suitable for use as composting material. However, shell waste requires special treatment for composting materials.

Keywords: Characteristics, Composition, Generation , Palm Oil, Solid Waste

