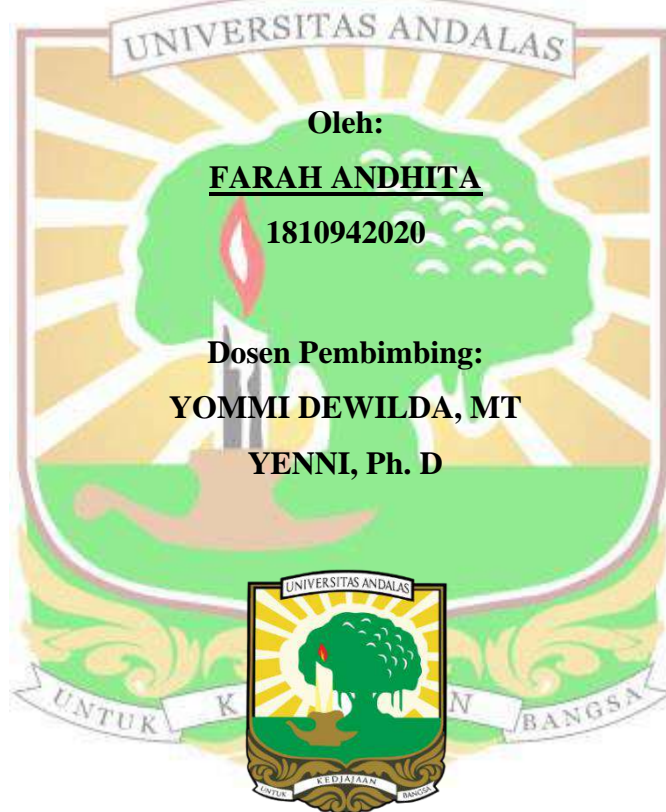


**STUDI TIMBULAN, KOMPOSISI, KARAKTERISTIK  
DAN POTENSI DAUR ULANG SAMPAH KOMERSIAL  
KOTA PADANG TAHUN 2023**

**TUGAS AKHIR**

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



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**2024**

## ABSTRAK

Data timbunan, komposisi, karakteristik, dan potensi daur ulang sampah komersial di Kota Padang belum memiliki data terbaru sejak tahun 2017. Tujuan penelitian ini menganalisis timbunan, komposisi, karakteristik, dan potensi daur ulang sampah komersial di Kota Padang tahun 2023. Sampel yang diambil berasal dari fasilitas komersial seperti toko, rumah makan, hotel, dan pasar. Pengambilan sampel dilakukan di 3 kecamatan di Kota Padang selama 8 hari berturut-turut sesuai dengan SNI 19-3964-1994 tentang Metode Pengambilan dan Pengukuran Contoh Timbunan, Karakteristik, dan Komposisi Sampah Perkotaan. Pengukuran timbunan sampah dilakukan dalam satuan berat dan satuan volume, komposisi dan potensi daur ulang sampah dilakukan berdasarkan persentase berat basah. Pengukuran karakteristik fisika berupa berat jenis dan faktor pemadatan. Pengukuran karakteristik kimia berupa *proximate analysis* dan rasio C/N. Total timbunan sampah komersial Kota Padang adalah 25.892 kg/h atau 25,89 ton/h. Komposisi sampah komersial antara lain sampah sisa makanan 42,51%, plastik 29,49%, kertas 18,82%, halaman 3,83%, karet/kulit 2,27%, logam/kaleng 2,11%, lain-lain 0,45%, kain/tekstil 0,27%, dan sampah kaca 0,25%. Karakteristik fisika sampah yaitu berat jenis sampah 0,13 kg/l dan faktor pemadatan 1,434. Karakteristik kimia yaitu kadar air 41,85%, volatil 47,57%, abu 5,87%, *fixed carbon* 4,71% dan rasio C/N 42,31. Karakteristik biologi yaitu populasi lalat sebanyak 4 ekor/m<sup>2</sup> dan biodegradabilitas sampah 62,19%. Rata-rata potensi daur ulang sampah komersial Kota Padang adalah 55,2%. Rekomendasi dari penelitian ini yaitu pengomposan untuk sampah layak kompos, budidaya maggot BSF (*Black Soldier Fly*), dan daur ulang (*recycling*).

**Kata Kunci:** Timbunan, komposisi, karakteristik, potensi daur ulang, sampah komersial, Kota Padang

## ABSTRACT

*Data on commercial waste generation, composition, characteristics, and recycling potential in Padang City has not been released since 2017. This study aims to analyze the generation, composition, characteristics, and recycling potential of commercial waste in Padang City in 2023. Samples were taken from commercial facilities such as shops, restaurants, hotels, and markets. Sampling was conducted in 3 sub-districts in Padang City for eight consecutive days by SNI 19-3964-1994 concerning Methods of Taking and Measuring Examples of Urban Waste Generation, Characteristics, and Composition. Measurement of waste generation is carried out in units of weight and volume, composition, and potential for waste recycling based on the percentage of wet weight. Measurement of physical characteristics in the form of specific gravity and compaction factors. Measurement of chemical characteristics in the form of proximate analysis and C/N ratio. The total commercial waste generation of Padang City is 25,892 kg/h or 25.89 tons/h. The composition of commercial waste includes food waste 42.51%, plastic 29.49%, paper 18.82%, yard 3.83%, rubber/leather 2.27%, metal/cans 2.11%, others 0.45%, fabric/textile 0.27%, glass waste 0.25%. The physical characteristics of waste are the specific gravity of 0.13 kg/l and the compaction factor of 1.434. Chemical characteristics are moisture content 41.85%, volatile 47.57%, ash 5.87%, fixed carbon 4.71%, and C/N ratio 42.31. Biological characteristics are a fly population of 4 flies/m<sup>2</sup> and waste biodegradability of 62.19%. The average recycling potential of commercial waste in Padang City is 55.2%. Recommendations from this study are composting for compostable waste, BSF (Black Soldier Fly) maggot cultivation, and recycling.*

**Keywords:** *Generation, composition, characteristics, recycling potential, commercial waste, Padang City*