

Analisis Pengaruh Jumlah dan Urutan Hari Sampling Terhadap Jumlah Timbulan Sampah Anorganik Rumah Tangga = Analysis of the Effect of the Number and Sequence of Sampling Days on the Amount of Non-Organic Household Waste Generation

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Abstrak

Sampah menjadi masalah di semua negara baik maju ataupun berkembang, diketahui bahwa di negara berkembang umumnya didominasi oleh sampah organik sedangkan negara maju ialah sampah anorganik seperti plastik dan kertas. Diperlukan pengelolaan sampah yang lebih optimal dan terpadu yang dapat diterapkan di suatu wilayah atau kota yang memerlukan perhitungan timbulan sampah. Penelitian ini bertujuan untuk mengetahui pengaruh waktu sampling terhadap timbulan dan komposisi sampah rumah tangga yang dihasilkan. Perhitungan timbulan dan komposisi sampah diukur menggunakan metode SNI 19-3964-1994 dengan waktu sampling selama 16 hari berturut-turut yang berlokasi di Perumahan Kavling UI Timur. Dilakukan variasi sampling kurang dari 8 hari berturut-turut yaitu variasi 5 hari, 6 hari maupun secara acak untuk melihat signifikansi terhadap SNI-19-3964-1994. Data menghasilkan timbulan sampah anorganik rumah tangga dengan rata-rata 0,125 kg per orang per hari. Komposisi sampah anorganik rumah tangga di lokasi studi didominasi oleh kardus yang mencapai 20.478% dengan berat rata-rata 1.225 kg per hari. Kategori komposisi sampah lainnya terdiri dari 19.97% sampah residu, 19.576% plastik biasa, plastik botol sebesar 7.84%, gelas plastik sebesar 4%, stereofom sebesar 1.27%, kertas sebesar 6.3%, kain sebesar 3.8%, saset aluminium sebesar 2.875%, plastik sebesar 0.05%, karet sebesar 1.94%, popok sebesar 8%, beling sebesar 0.93%, e-waste sebesar 0.27%, plastik HDPE sebesar 1.03%, kaleng sebesar 0.74%, besi sebesar 0.33%, dan kayu sebesar 0.34%. Seluruh data dengan variasi diuji normalitasnya menggunakan metode Shapiro Wilk dengan nilai signifikansi lebih dari 0,05 yang berarti data berdistribusi normal. Selanjutnya, dilakukan uji statistik T independen untuk menguji hipotesis, dan hasilnya menunjukkan bahwa semua nilai signifikansi lebih dari 0,05 yang menandakan bahwa waktu sampling tidak mempengaruhi timbulan sampah. Semua faktor yang terlibat dalam pengambilan data mempengaruhi hasil perhitungan timbulan sampah dan komposisinya termasuk waktu pengambilan data. Analisis data menunjukkan bahwa perhitungan timbulan sampah anorganik rumah tangga di masa mendatang dapat dilakukan selama 8 hari berturut-turut, 5 hari berturut-turut, 6 hari berturut-turut, atau selama 8 hari secara acak tanpa perbedaan signifikan.

.....Trash is a problem in all countries, both developed and developing. It is known that developing countries generally have predominantly organic waste, whereas developed countries have inorganic waste such as plastic and paper. Optimal and integrated waste management is needed, which can be implemented in a region or city, requiring the calculation of waste generation. This study aims to determine the effect of sampling time on the generation and composition of household waste produced. Waste generation and composition calculations were measured using the SNI 19-3964-1994 method with a sampling time of 16 consecutive days, located in the Kavling UI Timur Housing Complex. Sampling variations of less than 8 consecutive days, namely variations of 5 days, 6 days, or randomly, were conducted to observe significance compared to SNI-19-3964 1994. The data resulted in an average household inorganic waste generation of

0.125 kg per person per day. The composition of household inorganic waste in the study location was dominated by cardboard, reaching 20.478% with an average weight of 1.225 kg per day. Other waste composition categories consist of 19.97% residual waste, 19.576% ordinary plastic, 7.75% plastic bottle 4,84%, plastic, 1.27% styrofoam, 6.3% paper, 3.8% fabric, 2.875% aluminum sachets, 0.05% Flexible plastic, 1.94% rubber, 8% diapers, 0.93% glass, 0.27% e-waste, 1.03% Strong plastic, 0.74% cans, 0.09% Jerrycan plastic, 0.33% iron, and 0.34% wood. All data with variations were tested for normality using the Shapiro-Wilk method with a significance value greater than 0.05, indicating that the data is normally distributed. Subsequently, an independent T-test was conducted to test the hypothesis, and the results showed that all significance values were greater than 0.05, indicating that sampling time does not affect waste generation. All factors involved in data collection affect the results of waste generation and composition calculations, including the data collection time. Data analysis shows that future calculations of household inorganic waste generation can be conducted over 8 consecutive days, 5 consecutive days, 6 consecutive days, or 8 random days without significant differences.