

PENGARUH KOMPOSISI SAMPAH ORGANIK DAN VOLUME EM4 TERHADAP KUALITAS KOMPOS PADA SISTEM *BATCH COMPOSTING* DI AGROEDUWISATA LESTARI MULYA

INTISARI

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Pelepasan gas methana (CH_4) ke atmosfer salah satunya disebabkan oleh penumpukan sampah organik. Agroeduwisata Lestari Mulya adalah contoh objek wisata yang masih membiarkan sampah organiknya menumpuk tanpa dikelola. Sampah yang dihasilkan seperti rumput liar, bonggol pisang, batang pisang dan dedaunan kering dapat ditangani dengan teknik pengomposan. Sebagai tambahan, diperlukan pupuk starter, air, air cucian beras, molase dan EM4. Metode yang digunakan pada penelitian ini yaitu eksperimen dengan 6 kombinasi perlakuan, yaitu A1B1 = variasi sampah organik dengan *C/N-ratio* awal sebesar 25 dan 260 ml EM4, A1B2 = variasi sampah organik dengan *C/N-ratio* awal sebesar 25 dan 520 ml EM4, A2B1 = variasi sampah organik dengan *C/N-ratio* awal sebesar 30 dan 260 ml EM4, A2B2 = variasi sampah organik dengan *C/N-ratio* awal sebesar 30 dan 520 ml EM4, A3B1 = variasi sampah organik dengan *C/N-ratio* awal sebesar 35 dan 260 ml EM4 dan A3B2 = variasi sampah organik dengan *C/N-ratio* awal sebesar 35 dan 520 ml EM4. Untuk mengetahui kualitas kompos telah memenuhi standar SNI 19-7030-2004, dilakukan pengamatan parameter fisik dan pengukuran terhadap suhu, pH dan kadar air setiap seminggu sekali, kadar karbon (C), *nitrogen* (N) dan *C/N-ratio* setiap dua minggu sekali, dan kadar *phosphor* (P) dan kadar *kalium* (K) pada akhir pengomposan. Hasil penelitian menunjukkan bahwa perlakuan A1B1 dengan *C/N-ratio* awal 25 dan 260 ml EM4 adalah perlakuan terbaik setelah dibandingkan dengan standar SNI 19-7030-2004. Selain itu, kandungan *phosphor* yang tinggi pada perlakuan A1B1 dibutuhkan oleh pohon berbuah yang banyak dibudidayakan di Agroeduwisata Lestari Mulya.

Kata kunci: *C/N-ratio*, EM4, kompos, sampah organik, unsur hara

THE INFLUENCE OF ORGANIC WASTE COMPOSITION AND EM4 VOLUME ON COMPOST QUALITY IN THE BATCH COMPOSTING SYSTEM IN AGROEDUWISATA LESTARI MULYA

ABSTRACT

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One of the reasons for the release of methane gas (CH₄) into the atmosphere is the accumulation of organic waste. Agroeduwisata Lestari Mulya is an example of a tourist attraction that still allows organic waste to accumulate without being managed. The resulting waste such as green grass, banana tubers, banana stems and dry leaves can be handled using composting techniques. In addition, starter fertilizer, water, rice washing water, molasses and EM4 are needed. The method used in this research is an experiment with 6 treatment combinations, namely A1B1 = variation of organic waste with initial C/N-ratio of 25 and 260 ml of EM4, A1B2 = variation of organic waste with initial C/N-ratio of 25 and 520 ml of EM4, A2B1 = variation of organic waste with initial C/N-ratio of 30 and 260 ml of EM4, A2B2 = variation of organic waste with initial C/N-ratio of 30 and 520 ml of EM4, A3B1 = variation of organic waste with initial C/N-ratio of 35 and 260 ml of EM4 and A3B2 = variation of organic waste with initial C/N-ratio of 35 and 520 ml of EM4. To determine whether the quality of the compost meets SNI 19-7030-2004 standards, physical parameters are observed and measurements are made of temperature, pH and water content once a week, carbon (C), nitrogen (N) and C/N-ratio once every two weeks, and phosphorus (P) and potassium (K) levels at the end of composting. The research results showed that A1B1 with an initial C/N-ratio of 25 and 260 ml EM4 was the best treatment after being compared with the SNI 19-7030-2004 standard. Apart from that, the high phosphorus content in the A1B1 treatment is needed by fruit-bearing trees which are widely cultivated at Agroeduwisata Lestari Mulya.

Key words: C/N-ratio, EM4, compost, organic waste, nutrients