

**PENGEMBANGAN MODEL PENGOMPOSAN SAMPAH DAUN  
SISTEM TUMPUKAN "MODEL WINDROW"  
DENGAN PENAMBAHAN ABU VULKANIK ERUPSI MERAPI**

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**Abstrak**

Penelitian ini bertujuan untuk mengetahui kecepatan proses pengomposan, kualitas fisik, kemik serta biologik kompos sampah daun hasil proses pengomposan melalui sistem pengomposan sampah daun di UNY dengan penambahan bahan aditif berupa abu vulkanik merapi. Pengomposan dilakukan menggunakan sistem tumpukan (*heap methode*) dengan mengembangkan "Model Windrow". Substrat organik dikomposkan dalam kotak-kotak pengomposan dengan volume cukup banyak, disusun menyerupai tumpukan dan dibiarkan terbuka. Bahan yang dikomposkan disusun berdasarkan komponen karbon (C) dan Nitrogen (N) kemudian ditambah komponen abu vulkanik merapi (mineral). Besarnya tumpukan adalah 1,5 m x 2 m x 1 m (lebar x panjang x tinggi). Parameter yang diamati dan diukur adalah kecepatan dekomposisi sampah daun yang diketahui dari hasil analisis kimiawi dan profil temperatur. Karakteristik kimiawi meliputi kandungan bahan organik, kadar air, C-organik, unsur-unsur makro, unsur mikro dan mineral khusus. Parameter biologik dilihat dari pengaruhnya terhadap pertumbuhan tanaman muda serta perkecambahan. Hasil penelitian menunjukkan bahwa penambahan abu vulkanik dapat mempercepat proses pengomposan. Kompos yang dihasilkan tidak berbeda dengan pengomposan daun tanpa penambahan abu fulkanik merapi. Ratio C/N yang dihasilkan lebih baik dibanding dengan pengomposan daun tanpa penambahan abu fulkanik merapi.

Kata kunci: pengomposan, *model windrow*, dan abu vulkanik

**Abstract**

*This research aimed to know the composting process's rapidity, physical and chemical and also biological quality of the compos yielded by the leaf-waste composting in Yogyakarta State University by adding the additive substance of the Merapi's volcanic ash. The composting process was done using the heap method by development of Windrow Model. The organic substances were composted within the composting boxes, in fulled volume, arranged by according of heaps then they were opened. The composted substances were arranged by following of carbonic component (C), nitrogen (N), then the volcanic ash subsequently added (minerals group). These parameters observed was leaf-waste decomposition rate which was known by the chemical analysis and temperature's profile. Chemical characteristics include the content of organic substances, water concentration, the organic-C, macro elements, micro elements, and certain minerals. The biological parameters were observed by their effect to the young plant's growth and germination. This research finding shows that "Windrow Model" composting is able to accelerate the composting process. The compost produced is not different with composting leaves without adding the Merapi's volcanic ash. Ratio C/N produced is better than composting leaves without adding the Merapi's volcanic ash.*

*Keywords: composting, windrow model, and volcanic ash*

