

Dinda Leviolifia. 2010. **Kajian Konsorsium Mikroba pada Produk Pupuk Kompos dari Bahan Baku Serbuk Gergaji Batang Pohon Kelapa (*Cocos nucifera* L.)**. Skripsi di bawah bimbingan Drs. Agus Supriyanto, M. Kes. dan Dr. Ir. Tini Surtiningsih, DEA. Departemen Biologi. Fakultas Sains dan Teknologi. Universitas Airlangga.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui kadar C-organik, N-total, rasio C/N dan jumlah koloni hasil perhitungan *Total Plate Count* (CFU/ml) dari kompos serbuk gergaji batang pohon kelapa (*Cocos nucifera* L.) yang dihasilkan dari penambahan konsentrasi konsorsium mikroba dan lama waktu pengomposan yang berbeda. Penelitian ini dilakukan dengan menambahkan konsorsium mikroba yang terdiri dari *Cytophaga sp.*, *Cellulomonas sp.*, *Bacillus sp.*, *Trichoderma sp.*, dan *Aspergillus sp.* Konsentrasi yang ditambahkan meliputi 0%, 2.5%, 5%, 7.5% dan 10%. Masing-masing substrat yang telah tersuspensi dengan konsentrasi-konsentrasi tersebut kemudian dikomposkan selama 1, 2, 3 dan 4 minggu. Penelitian ini bersifat deskriptif tanpa pengulangan sampel perlakuan. Hasil penelitian menunjukkan bahwa nilai-nilai kadar paling baik yang sesuai dengan standar baku pengomposan dicapai pada hasil pengomposan 1 minggu. Kadar C-organik kompos yang dihasilkan 37.89, 28.29, 26.13 dan 29.03%; kadar N-total 0.86, 1.11, 0.99 dan 1.13%; serta rasio C/N 44.05, 25.48, 26.39 dan 25.69, dari masing-masing konsentrasi konsorsium mikroba 0, 2.5, 5 dan 7.5% secara berturut-turut. Jumlah koloninya secara berturut-turut $1.34 \cdot 10^9$, $4.2 \cdot 10^9$, $8.4 \cdot 10^9$ dan $9.4 \cdot 10^9$ CFU/ml.

Kata kunci : Serbuk gergaji, *Cocos nucifera* L., konsorsium mikroba, lama waktu pengomposan, Rasio C/N, TPC

Dinda Leviolifia. 2010. **Study of Consortium Microbe Suspended in Compost Product from Saw Dust of Coconut Tree Stalk (*Cocos nucifera* L.) as The Raw Material.** This thesis is arranged by guidance of Drs. Agus Supriyanto, M. Kes. and Dr. Ir. Tini Surtiningsih, DEA. Department of Biology. Faculty of Sains and Technology. Airlangga University.

ABSTRACT

The objective of experiment was to know the content of C-organic, N-total, C/N ratio and the number of colonies (CFU/ml) of the compost that produced by different concentration of microbe consortium and different composting times. This experiment was done by adding microbe consortium that consist of *Cytophaga sp.*, *Cellulomonas sp.*, *Bacillus sp.*, *Trichoderma sp.*, and *Aspergillus sp.* The concentrations added were 0, 2.5, 5, 7.5 and 10 %. Each of substrates which was suspended by those concentrations incubated for 1, 2, 3 and 4 weeks. The data of this research analyzed descriptively, without replication of treatment. The results showed that the best content of C-organic, N-total, C/N ratio and the number of colonies of TPC (Total Plate Count) which are suitable toward standard of compost have been achieved of the samples which were incubated for 1 week. The content of C-organic has been produced are 37.89, 28.29, 26.13 and 29.03%, the content of N-total are 0.86, 1.11, 0.99 and 1.13%, and C/N ratio are 44.05, 25.48, 26.39 and 25.69. All of results above obtained from the samples with concentrations 0, 2.5, 5 and 7.5% respectively. The number of colonies of those concentrations were $1.34 \cdot 10^9$, $4.2 \cdot 10^9$, $8.4 \cdot 10^9$ and $9.4 \cdot 10^9$ CFU/ml.

Keywords: saw dust, *Cocos nucifera* L., microbe consortium, composting time, C/N ratio, TPC