

**PENGARUH PENAMBAHAN AMPAS TAHU
DALAM PEMBUATAN VERMICOMPOST DENGAN BAHAN DASAR
SLUDGE BIOGAS KOTORAN SAPI**

**Kiagus Abdul Syafei
11/313101/PT/05990**

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan ampas tahu dalam pembuatan *vermicompost* dengan bahan dasar *sludge* biogas kotoran sapi pada berbagai komposisi ampas tahu yang berbeda. Penelitian terdiri dari empat perlakuan, yaitu perlakuan pertama 0% (M1) sebagai kontrol, perlakuan kedua 10% (M2), perlakuan ketiga 20% (M3), dan perlakuan keempat 30% (M4) penambahan ampas tahu. Parameter yang diamati meliputi kualitas fisik yaitu warna, bau, suhu, pH dan tekstur pupuk, kualitas kimia terdiri dari N total, P total, K total, kadar air, kadar abu, C-organik, C/N rasio. Kualitas biologi terdiri dari jumlah daun sawi, berat panen sawi, dan panjang akar tanaman sawi. Data yang diperoleh diuji statistik dengan analisis variansi rancangan acak lengkap pola searah dan apabila menunjukkan perbedaan dilanjutkan dengan uji beda *Duncan's Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa penambahan ampas tahu pada perlakuan M2 memberikan pengaruh beda nyata ($P < 0,05$) dengan kontrol (M1) terhadap kadar air *vermicompost*. Perlakuan M3 dan M4 tidak memberikan pengaruh beda nyata dengan kontrol (M1) terhadap kualitas kimia *vermicompost*. Perlakuan M2, M3, dan M4 memberikan pengaruh berbeda nyata ($P < 0,05$) dengan kontrol (M1) terhadap berat panen sawi. Perlakuan M4 memberikan pengaruh berbeda nyata ($P < 0,05$) terhadap jumlah daun tanaman sawi. Kesimpulan penelitian ini, perlakuan terbaik adalah M2 (90% *sludge* biogas kotoran sapi dan 10% ampas tahu) karena pada kualitas biologi dapat meningkatkan berat panen sawi sebesar 33,32 gram.

(Kata kunci : Ampas tahu, *Lumbricus rubellus*, *Sludge* biogas, *Vermicomposting*)



UNIVERSITAS
GADJAH MADA

PENGARUH PENAMBAHAN AMPAS TAHU DALAM PEMBUATAN VERMICOMPOST DENGAN BAHAN
DASAR SLUDGE BIOGAS
KOTORAN SAPI

K A SYAFEI, Ir. Ambar Pertiwiningrum, M.Si. Ph.D.

Universitas Gadjah Mada, 2017 | Diunduh dari <http://etd.repository.ugm.ac.id/>

THE EFFECT OF ADDING DIFFERENT COMPOSITION BY PRODUCT OF TOFU IN PROCESS TO MAKE VERMICOMPOST WHICH USING SLUDGE BIOGAS AS IT'S MAIN COMPOUND

Kiagus Abdul Syafei
11/313101/PT/05990

ABSTRACT

This research's purpose was to find out the effect of tofu by product edition in vermicompost processing using biogas sludge as a basic material. This research consists of four treatments of different compositions of tofu by product. The first treatment was using 0% (M1), the second treatment was 10% (M2), the third treatment was 20% (M3), and the fourth was 30% (M4) of tofu by product. The parameters observed were physical qualities, chemical qualities, and biological qualities. Physical qualities were color, smell, temperature, pH, and texture. Then, chemical qualities were the total of N (Nitrogen), P (Phosphorus), K (Potassium), water degree, dust degree, C-Organic, and also C/N Ratio. The last was biological qualities which consist of the amount of mustard's leaf, the weight of mustard, and length of the mustard's root. The data were tested using analysis of variance of completely randomized design of one-way ANOVA, and the mean differences were analyzed with *Duncan's Multiple Range Test* (DMRT). The result of this research showed that adding the by-product of tofu in M2 shows a different effect ($P < 0.05$) with control (M1) towards the water degree of vermicompost. The differences of M3 and M4 treatments had no effect compared to M1 treatment towards chemical qualities of vermicompost. The differences of M2, M3, and M4 show a different effect ($P < 0.05$) with control (M1) towards the weight of mustard itself (biological qualities of vermicompost). M4 treatment shows a different effect ($P < 0.05$) compared to control (M1) towards the amount of mustard's leaf. The conclusion of this research was the finest dose of tofu by product was M2 treatment (using 90% sludge biogas as its main compound and 10% by-product of tofu) because it can improve harvest weight of 33,32 grams.

(Keywords : By-product of tofu, *Lumbricus rubellus*, Sludge biogas, Vermicomposting).