

Made Diah Setiawati, 2011. Uji Potensi Konsorsium Bakteri Selulolitik Ulat Grayak (*Spodoptera litura*) sebagai Bio-toilet pada Degradasi Feces Sapi. Skripsi ini di bawah bimbingan Dr. Ir. Tini Surtiningsih, DEA dan Tri Nurhariyati, S.Si., M. Kes, Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

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## ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh konsorsium bakteri selulolitik ulat grayak (*Spodoptera litura*) sebagai bio-toilet pada konsentrasi, lama waktu inkubasi, dan kombinasi keduanya terhadap degradasi feces sapi. Rancangan percobaan yang digunakan adalah rancangan faktorial 4x4 dengan 3 ulangan. Terdiri dari 4 level konsentrasi konsorsium bakteri selulolitik ulat grayak (*S. litura*) (0%, 5%, 10%, 15%) dan 4 level waktu inkubasi (1, 2, 3, dan 4 minggu). Variabel yang diukur adalah nilai C-organik dengan metode pengabuan dan TSS (*Total Suspended Solid*) dengan metode gravimetri. Data yang diperoleh dianalisis menggunakan uji ANAVA dua arah dan *Brown Forsythe* pada taraf 5%. Hasil penelitian menunjukkan bahwa konsentrasi konsorsium bakteri selulolitik ulat grayak (*S. litura*), waktu inkubasi dan kombinasi keduanya tidak berpengaruh terhadap kadar C-organik dan nilai TSS, tetapi didapatkan adanya penurunan kadar C-organik dan nilai TSS, serta adanya peningkatan jumlah pertumbuhan bakteri selama waktu inkubasi pada pemberian konsentrasi konsorsium dibandingkan dengan tanpa pemberian konsentrasi konsorsium bakteri selulolitik ulat grayak (*S. litura*).

*Kata kunci* : bakteri selulolitik, *spodoptera litura*, bio-toilet, feces sapi, c-organik, total suspended solid

Made Diah Setiawati, 2011. The Potential Test of Consortium of Cellulolytic Bacteria from the Grayak Caterpillar (*Spodoptera litura*) as a Bio-Toilet on the Cow Dung Degradation. This minithesis was guided by Dr. Ir. Tini Surtiningsih, DEA and Tri Nurhariyati, S.Si., M. Kes, Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

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### ABSTRACT

This study was aimed to know the influence of consortium of cellulolytic bacteria from the grayak caterpillar (*Spodoptera litura*) as a bio-toilet at a concentration, long time of incubation, and combination of both on the cow dung degradation. Experimental design used was a 4x4 factorial design with three replications. Consists of four levels of concentration of consortium of cellulolytic bacteria from the grayak caterpillar (*S. litura*) (0%, 5%, 10%, 15%) and 4 levels of incubation time (1, 2, 3, and 4 weeks). Variable measured is the value of C-organic by ash method and TSS (Total Suspended Solid) by gravimetric method. The data obtained were analyzed using the test of two-way ANOVA and Brown Forsythe at 5% level. Results showed that the concentration of consortium of cellulolytic bacteria from the grayak caterpillar (*S. litura*), incubation time, and combination of both had no effect on levels of C-organic and TSS values, although it had obtained a decrease in the levels of C-organic and TSS values, as well as an increase in the amount of bacterial growth during incubation at a concentration of the consortium compared to no provision of the concentration of cellulolytic bacteria consortium from grayak caterpillar (*S. litura*).

*Key word : cellulolytic bacteria, spodoptera litura, bio-toilet, cow dung, c-organic, total suspended solid*