

ABSTRAK

FIRMAN AZIZ NUGRAHA. Analisis Laju Penguraian Dan Hasil Kompos Pada Pengolahan Sampah Sayur Dengan Larva Black Soldier Fly (*Hermetia Illucens*). Dibimbing Oleh Yebi Yuriandala, S.T., M. Eng dan Fina Binazir Maziya, S.T., M.T.

Pada saat ini permasalahan pengelolaan sampah menjadi hal yang selalu ditemukan di seluruh wilayah Indonesia terutama di kota-kota besar dan salah satunya di Kabupaten Sleman. Banyak teknologi yang telah dikembangkan dalam pengelolaan sampah organik, salah satunya menggunakan larva dari Black Soldier Fly (*Hermetia illucens*). Tujuan dari penelitian ini ialah mempelajari laju umpan oleh larva BSF dengan bervariasi pemberian umpan (60, 80, 100 mg/larva/hari) dan dipelihara selama 19 hari. Analisa dilakukan terhadap konsumsi umpan, indeks pengurangan limbah (waste reduction index/WRI), efisiensi konversi umpan tercerna (efficiency of conversion of digested-feed/ECD), bobot larva serta kandungan C, N, P dan K dibandingkan dengan SNI 19-7030-2004 tentang Spesifikasi kompos dari sampah organik domestik. Hasil penelitian menunjukkan nilai reduksi sampah sebesar 61,68%-73,98%. Laju pengurangan sampah paling optimum adalah sampel (S1) dengan pemberian umpan (60 mg/larva/hari). Analisa pada perlakuan S1 sebesar 73.98% konsumsi umpan; WRI 4.03%/hari; ECD 7,30% dan biomassa larva akhir 74,2 mg/larva. Hasil kandungan kompos tidak jauh berbeda pada setiap reaktor dengan nilai sebesar C/N 22,11;P 0,85% dan K 0.99%.

Kata Kunci: Biokonversi, *Black Soldier Fly*, Kompos, Sampah Sayur

ABSTRACT

FIRMAN AZIZ NUGRAHA. Analysis of Decomposition Rate and Compost Result in Vegetable Waste Processing with Black Soldier Fly Larva (Hermetia Illucens). Supervised by Yebi Yuriandala, S.T., M.Eng and Fina Binazir Maziya, S.T., M.T.

*Today, the problem of waste management that always been found in all region of indonesia, especially in big cities and one of them is Sleman Regency. The composition of waste in Sleman Regency is dominated by organic waste with a presentation of 74.22%. Many technologies have been developed in the management of organic waste, one of them uses larvae from Black Soldier Fly (*Hermetia illucens*). The purpose of this study was to study the feed rate of BSF larvae by varying feeding rate (60, 80, 100 mg / larva / day) for 19 days. Analysis was carried out is feed consumption, waste reduction index (WRI), efficiency of conversion of digested feed (ECD), larval weight and C, N, P and K content compared with SNI 19-7030 -2004 concerning the specifications of compost from domestic organic waste. The results showed that the value of waste reduction varitated was between 61.68% -73.98%. The most optimum rate of waste reduction is sample (S1) with feeding rate (60 mg/larva/day). Analysis on sample S1 was 73.98% for feed consumption; WRI 4.03% / day; ECD 7.30% and final larval biomass 74.2 mg / larvae. The results of the compost content were not much different in each reactor with values of C / N 22.11, P 0.85% and K 0.99%.*

Keywords: *Bioconversion, Black Soldier Fly, Compost, Vegetable Waste*