

ABSTRAK

AULIA ARIEF NURSAID. Analisis Laju Penguraian Dan Hasil Kompos Pada Pengolahan Sampah Buah Dengan Larva *Black Soldier Fly (Hermetia Illucens)*. Dibimbing oleh Yebi Yuriandala, S.T., M.Eng dan Fina Binazir Maziya, S.T., M.T.

Biokonversi bahan organik menjadi biomassa larva adalah salah satu alternative pengolahan mengatasi permasalahan terkait meningkatnya jumlah timbulan sampah organik khususnya sampah buah. Tujuan penelitian ini ialah mempelajari laju umpan larva BSF dalam mengkonversi sampah menjadi biomassa dan kandungan kompos yang dihasilkan. sampah buah yang digunakan sebagai umpan larva BSF bervariasi (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 pada kompos. Hasil penelitian menunjukkan nilai reduksi sampah sebesar 57 – 68,17%. Laju umpan yang menghasilkan proses reduksi sampah paling optimum adalah dengan umpan 60 mg/larva/hari (B1). Analisa pada perlakuan B1 sebesar 68,17 % konsumsi umpan ; WRI 3,73/hari; ECD 8,36 %; bobot larva akhir 64 mg. Serta untuk hasil kandungan kompos tidak jauh berbeda disetiap reaktor dengan nilai sebesar C/N 30,37; P 0,85% dan K 1,02%.

KATA KUNCI : *Hermetia illucens*, Sampah buah, Biokonversi, Kompos

ABSTRACT

AULIA ARIEF NURSAID. *Analysis of Decomposition Rate and Compost Results in Treatment of Fruit Waste with Larva Black Soldier Fly (Hermetia Illucens)*. Supervised by Yebi Yuriandala, S.T., M.Eng and Fina Binazir Maziya, S.T., M.T.

Bioconversion from organic waste into biomass and producing compost is one of alternative treatment that to be able to solve problem about increase of the organic waste. The purpose of this study was to study the feed rate of BSF larvae in converting waste into larvae biomass and content of the compost . Fruits waste use variated feeding rate (60, 80, 100 mg / larva / day) and is maintained for 19 days. Analyzes were carried out on feed consumption, waste reduction index (WRI), efficiency of conversion of digested feed (ECD) larvae biomassa and the content of C, N, P, K on the compost. The results show 57 - 68.17% waste reduction. The feed rate that reach optimum waste reduction process was 60 mg / larva / day (B1). The B1 treatment showed feed consumption 68.17%, WRI 3.73 per day, ECD 8.36%, final larva biomassat 64 mg. Also for content of compost is not much different in each reactors with C/N 30.37; P 0.85% and K 1.02%.

Keywords : Hermetia illucens, Fruits waste, Bioconversion, Compost