

## ABSTRAK

Nugraha, Earlan, 2023, **PENGARUH PENAMBAHAN KOTORAN AYAM PADA LIMBAH PADAT DOMESTIK TERHADAP KUALITAS LARVA BSF**, Fakultas Teknik Universitas PGRI Adi Buana Surabaya.

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Peningkatan jumlah penduduk menyebabkan masalah lingkungan seperti menumpuknya limbah padat domestik organik. BSF merupakan salah satu teknologi berkelanjutan untuk mengolah sampah karena BSF dapat mengurangi timbunan limbah domestik khususnya yang berupa limbah padat domestik organik meninggalkan residu. Dengan menambahkan kotoran ayam pada timbunan sampah domestik organik dapat membantu pertumbuhan BSF dan membantu menguraikan timbunan sampah yang ada. Tujuan penelitian ini adalah untuk mengetahui pengaruh penambahan kotoran ayam pada timbunan limbah padat domestik organik terhadap kualitas larva BSF, kadar protein, kadar lemak, berat larva BSF dan ukuran larva BSF. Penelitian ini merupakan penelitian eksperimen. Penelitian dilakukan dalam skala laboratorium dengan menggunakan reaktor bervolume 2,5 liter. Sampah organik organik sayur digunakan dengan reaktor masing-masing 1 kg, larva BSF 400 gram, dan feses ayam yang divariasikan yaitu R1 (0 gram), R2 (250 gram), R3 (400 gram), R4 (550 gram) dan R5 (700 gram). Biokonversi sampah dilakukan selama 14 hari hingga sampah terurai. Terbukti jumlah kotoran ayam yang ditambahkan mempengaruhi kualitas larva BSF dimana larva BSF pada reaktor R5 memiliki kadar protein (54,29%), lemak (4,55%), berat (1028gr), panjang (2,57cm), dan diameter (0,49cm) terbesar diantara reaktor lainnya.

**Kata Kunci :** Sampah Organik, Feses Ayam, *Black soldier fly*, Lemak, Protein

## ABSTRACT

Nugraha, Earlan, 2023, *EFFECT OF CHICKEN MANURE ADDITION IN DOMESTIC SOLID WASTE ON BSF LARVAE QUALITY*, Faculty of Engineering, PGRI Adi Buana University, Surabaya.

The increase in population causes environmental problems such as the accumulation of organic domestic solid waste. BSF is one of the sustainable technologies for processing waste because BSF can reduce landfills of domestic waste, especially in the form of organic domestic solid waste, leaving residue. By adding chicken manure to heaps of organic domestic waste, it can help the growth of BSF and help decompose existing piles of waste. The purpose of this study was to determine the effect of adding chicken manure to heaps of organic domestic solid waste on the quality of BSF larvae, protein content, fat content, weight of BSF larvae and size of BSF larvae. This research is an experimental research. The research was conducted on a laboratory scale using a 2,5 liter volume reactor. Vegetable organic organic waste is used with 1 kg each reactor, 400 grams of BSF larvae, and varied chicken feces, namely R1 (0 gram), R2 (250 gram), R3 (400 gram), R4 (550 gram) and R5 ( 700 grams). Waste bioconversion is carried out for 14 days until the waste decomposes. It is proven that the amount of chicken manure added affects the quality of BSF larvae where BSF larvae in reactor R5 have protein content (54,29%), fat (4,55%), weight (1028gr), length (2,57cm), and diameter (0,49cm) the largest among other reactors.

Keywords: Organik Waste, Chicken Manure, *Black soldier fly*, Fat, Protein