

**PENGARUH KOMBINASI LARVA *BLACK SOLDIER FLY* (*Hermetia illucens*
L.) DAN PAKAN KOMERSIAL TERHADAP KOMPOSISI ASAM LEMAK
DAN STRUKTUR USUS IKAN NILA**

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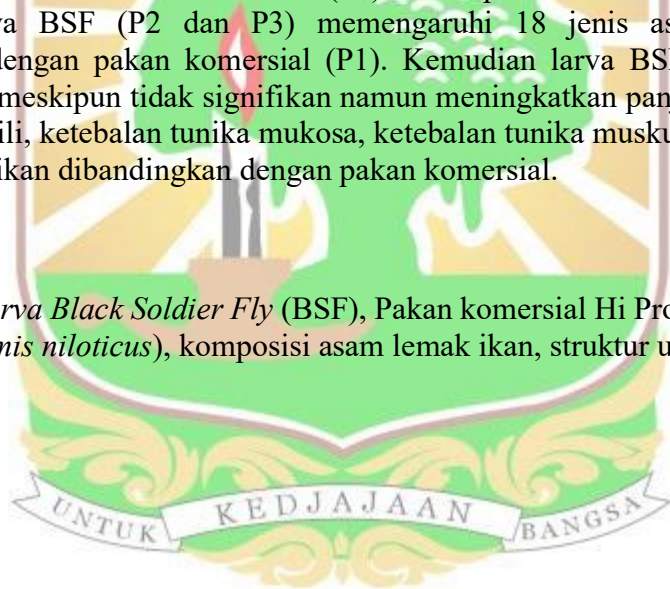
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ABSTRAK

Penelitian tentang pengaruh kombinasi larva *Black Soldier Fly* (BSF) dan pakan komersial terhadap komposisi asam lemak dan struktur usus ikan nila telah dilakukan pada bulan Juli 2024 hingga Oktober 2025 di kolam ikan buatan di Kuranji dan Laboratorium Riset Fisiologi Hewan, Departemen Biologi, Universitas Andalas. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi larva BSF dan pakan komersial terhadap komposisi asam lemak, panjang usus, indeks usus, dan histologi usus ikan nila. Penelitian dilakukan dengan metode eksperimental menggunakan Rancangan Acak Lengkap (RAL). Dalam penelitian ini terdapat tiga macam perlakuan. Parameter komposisi asam lemak menggunakan ikan sebanyak 54 ulangan dalam setiap perlakuan. Kemudian parameter struktur usus menggunakan ikan sebanyak 5 ulangan dalam setiap perlakuan. Pemberian pakan dalam bentuk pakan kenyang dengan formulasi pakan diantaranya, pakan komersial Hi Pro Vite 781-2 (P1), larva BSF segar + pakan komersial Hi Pro Vite 781-2 (P2), dan larva BSF kering + pakan komersial Hi Pro Vite 781-2 (P3). Hasil penelitian menunjukkan bahwa kombinasi larva BSF (P2 dan P3) memengaruhi 18 jenis asam lemak ikan dibandingkan dengan pakan komersial (P1). Kemudian larva BSF segar + pakan komersial (P2) meskipun tidak signifikan namun meningkatkan panjang usus, indeks usus, panjang vili, ketebalan tunika mukosa, ketebalan tunika muskularis, dan jumlah sel goblet usus ikan dibandingkan dengan pakan komersial.

Kata kunci: Larva *Black Soldier Fly* (BSF), Pakan komersial Hi Pro Vite 781-2, ikan nila (*Oreochromis niloticus*), komposisi asam lemak ikan, struktur usus ikan.



ABSTRACT

Research on the effect of the combination of Black Soldier Fly (BSF) larvae and commercial feed on the fatty acid composition and intestinal structure of tilapia was conducted from July 2024 to October 2025 in an artificial fish pond in Kuranji and the Animal Physiology Research Laboratory, Department of Biology, Andalas University. This study aims to determine the effect of the combination of BSF larvae and commercial feed on the fatty acid composition, intestinal length, intestinal index, and intestinal histology of tilapia. The study was conducted using an experimental method using a Completely Randomized Design (CRD). In this study, there were three types of treatments. The parameters of fatty acid composition used fish with 54 replications in each treatment. Then the parameters of intestinal structure used fish with 5 replications in each treatment. Feeding was in the form of full feed with feed formulations including, commercial feed Hi Pro Vite 781-2 (P1), fresh BSF larvae + commercial feed Hi Pro Vite 781-2 (P2), and dry BSF larvae + commercial feed Hi Pro Vite 781-2 (P3). The results showed that BSF larvae (fresh and dried) affected 18 types of fish fatty acids compared to commercial feed. Furthermore, fresh BSF larvae + commercial feed, although not significantly increased intestinal length, intestinal index, villus length, thickness of the tunica mucosa, thickness of the tunica muscularis, and the number of goblet cells in fish compared to commercial feed.

Keywords: *Black Soldier Fly* (BSF) larvae, Hi Pro Vite 781-2 commercial feed, tilapia (*Oreochromis niloticus*), fish fatty acid composition, fish intestinal structure.

