

Omega-3 content of black soldier fly prepupa (*hermetia illucens*) fed with marine fish offal and tofu dreg

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Abstrak

One of the materials with great potency for future nutrition source for animal feed is prepupae of black soldier fly larvae (BSFP) (*Hermetia illucens*) which is fed on organic wastes. This study was designed to observe the accumulation of specific substance (omega-3) of organic wastes (marine fish offal and tofu dregs) inside harvested biomass of BSFP. A total of 150 gram food consist of marine fish offal and tofu dreg with different proportion (10:90, 25:75, 50:50, and 100% tofu dregs) was fed to black soldier fly larvae (BSFL) for 21 days. At the end of feeding trial, all BSFL were harvested, weighed, and then analyzed for omega-3 fatty acids content. Fatty acid content was analyzed using Gas Chromatography with Flame Ionization Detector (GC-FID). Result of the experiment showed BSFL reared with 25% marine fish offal produced highest biomass (8.1 g / 50 larvae) with least development time (19 days). The total of omega-3 recorded from application of 0%, 10%, 25%, and 50% of marine fish offal was 0.02%, 0.87%, 2.16% and 2.61% in 100 g of dry weight, respectively. This result showed the possibility of transferring specific nutrient from organic wastes biomass of BSFP which provides base knowledge for further application in design of specific animal feed from BSFP.