

ABSTRACT

Aretha Fadilah Anam

EFFECTIVENESS OF LIQUID MILK WASTE FEEDING ON PROTEIN CONTENT OF BSF (*Black Soldier Fly*) LARVAE

(xiv + 75 Pages + 10 Pictures + 19 Tables)

Liquid milk waste is a product of milk processing that does not meet quality control requirements and is not suitable for distribution and becomes reject waste in the dairy industry. One of the efforts made in reducing the amount of waste milk waste is one of them by using the help of BSF larvae. The purpose of this study was to analyze the effectiveness of giving liquid milk waste to the protein content of BSF (*Black Soldier Fly*) larvae.

This research uses pure experimental research methods using Response Surface Methodology (RSM) design. The object of this research is 1-day-old BSF larvae as much as 30 grams, which are treated by feeding with variations in the amount of feed until the harvest period ends with a total of 2.5 liters, 3 liters, and 3.5 liters and the harvest age is on day 5, day 7, day 9. Data collection was done through laboratory testing by testing the protein content of BSF larvae. The data obtained were analyzed using ANOVA test ($\alpha = 0.05$).

The ANOVA test results using the Quadratic model showed that the p value was <0.05 , so the amount of feed and harvest age had a significant effect on the response. The highest protein content in BSF larvae was obtained by feeding 3.5 liters of feed with harvest age on day 5 with a protein content of 12.93%. Analysis using Response Surface Methodology (RSM) resulted in an optimum solution model at 3.4 liters of feed with harvest age on day 5.

This study can be concluded that BSF larvae feed with liquid milk waste can produce quite good protein content. Further research needs to be done on the quality of other nutrients.

Keywords : Liquid Milk Waste, BSF Larvae, Protein

Bibliography : 54 (43 journals + 11 books)

ABSTRAK

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EFEKTIVITAS PEMBERIAN LIMBAH SUSU CAIR TERHADAP KANDUNGAN PROTEIN LARVA BSF (*Black Soldier Fly*)

(xiv + 75 Halaman + 10 Gambar + 19 Tabel)

Limbah susu cair merupakan produk hasil pengolahan susu yang tidak memenuhi persyaratan pengendalian mutu dan tidak layak didistribusikan sehingga menjadi limbah *reject* pada industri susu. Upaya yang dapat dilakukan dalam mengurangi banyaknya timbulan limbah susu tersebut salah satunya dengan menggunakan bantuan larva BSF. Tujuan penelitian ini untuk menganalisis efektivitas pemberian limbah susu cair terhadap kandungan protein larva BSF (*Black Soldier Fly*).

Jenis penelitian ini menggunakan metode penelitian eksperimen murni yang dirancang menggunakan *Response Surface Methodology* (RSM). Objek penelitian ini adalah larva BSF usia 1 hari sebanyak 30 gram, yang diberi perlakuan yaitu pemberian pakan dengan variasi jumlah pakan hingga masa panen berakhir dengan total keseluruhan yaitu 2,5 liter, 3 liter, dan 3,5 liter serta usia panen yaitu pada hari ke-5, hari ke-7, hari ke-9. Pengumpulan data dilakukan melalui pengujian laboratorium dengan menguji kandungan protein pada larva BSF. Data terkumpul dianalisis menggunakan uji ANOVA ($\alpha = 0,05$).

Hasil uji ANOVA menggunakan model *Quadratic* menghasilkan nilai $p < 0,05$ maka jumlah pakan dan usia panen memberi pengaruh signifikan terhadap respon. Kandungan protein tertinggi pada larva BSF didapatkan pada pemberian jumlah pakan 3,5 liter dengan usia panen pada hari ke-5 dengan kandungan protein sebesar 12,93%. Analisis menggunakan *Response Surface Methodology* (RSM) memberikan solusi optimum pada pemberian jumlah pakan sebanyak 3,4 liter dengan usia panen pada hari ke-5.

Penelitian ini dapat ditarik kesimpulan bahwa larva BSF yang diberi pakan limbah susu cair dapat menghasilkan kandungan protein yang cukup baik. Perlu dilakukan penelitian lanjutan mengenai kualitas kandungan nutrisi yang lain.

Kata Kunci : Limbah Susu Cair, Larva BSF, Protein

Daftar Pustaka : 54 (43 jurnal + 11 buku)