

**ANALYSIS OF REDUCTION INDEX AND COMPOST RESULT ON THE
PROCESSING OF TOFU DREGS USING LARVA BLACK SOLDIER FLY
(*Hermetia illucens*)**

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ABSTRACT

Waste consisted of two types, namely organic and inorganic waste. Types of organic waste such as tofu dregs, vegetable waste, fruit residue, and others. In the last six years, the production of tofu processing has become the most superior commodity for SMEs in Kediri City which has resulted in excess tofu dregs remaining in production. Tofu waste processing method that can be applied is bioconversion using Black Soldier Fly (BSF) larvae as a catalyst. Limitation of the problem in this study is the reduction index of tofu dregs and the measurement of C/N parameters compared to SNI 19-7030-2004. The purpose of this study was to determine the reduction index and compost yield for tofu waste processing using BSF larvae (*Hermetia illucens*).

The type of this research is Quasy Experiment with Pretest-Posttest Control Group Design. The tofu dregs used came from IKM in Jagalan Village, Kediri City District, Kediri City. Subjects of variation of tofu dregs were 50, 55, and 60 gr/day with 50 larvae. Giving tofu dregs is done every day for 20 days. The sampling technique in this study used the Composite Place Sample method with a sample size of 5.5 kg/day. The results of this study obtained a reduction index value of tofu waste using the WRI (Waste Reduction Index) formula in reactor 1 of 25%, reactor 2 of 50.6%, reactor 3 of 50.4%, and reactor 4 of 47.2%. The reduction in reactor 1 was caused by drying of the tofu dregs. The reduction in reactors 2 and 3 was caused by larval activity with the appropriate amount of feed. In reactor 4 caused by slower larval activity due to excessive amount of feed. Compost yields with parameters C/N, temperature, humidity, and acidity (pH) decreased until day 40.

In this study, it can be concluded that the highest tofu waste reduction index was found in the variation of feed 50 g/day with larvae and compost produced by the final media of BSF fly larvae, parameters C/N, not according to SNI 19-7030-2004. Suggestions for this research need to do further research on the quantity of compost after the larvae stop eating, testing for bacteria in larval feces, and controlling humidity in the feed of BSF fly larvae.

Keywords : Tofu dregs, BSF larvae, compost