

SUMMARY

Batik industrial dye effluent is one of the causes of environmental pollution. Indigosol blue is a synthetic dye that is used as a blue dye in dyeing batik. Efforts to reduce dyes in textile dye effluent can be done by applying is to utilize biological dye effluent treatment technology with biodegradation using microorganisms such as fungal. *Aspergillus* sp. 2 and *Aspergillus* sp. 3 used in the research to be carried out are expected to accelerate the process of decolorizing batik dye effluent. The results of the batik effluent degradation are thought to have the potential to be recycled so that it becomes a product that can be used to produce macronutrients.

The research method that will be used is an experimental method with a completely randomized design (CRD) consisting of 6 treatments with 5 replications using *Aspergillus* sp. 2 and *Aspergillus* sp. 3 with various incubation periods in degrading batik dye effluent. The treatments used A1 = Batik Effluent (indigosol blue), A2 = Fermentation (EM4, molasses, goat urine) for 7 days, A3 = The degradation result of Batik dye effluent 36 hours, A4 = The degradation result of Batik dye effluent 72 hours, A5 = 36 hours Batik dye effluent degradation + fermentation goat urine, A6 = 72 hours Batik dye effluent degradation + fermentation goat urine. The variable that was used in this research such as incubation periods. The parameter measured was the value of macronutrients (Nitrogen, Phosphorus, Potassium, and C-organic), while the supporting parameters measured were characteristic of fungal mycelium in degrading effluent. The data obtained will be analyzed by an ANOVA statistical test at 95% and 99% confidence levels followed by the Honest Significant Difference (HSD) test with an error rate of 1% and 5%.

Keywords: *Aspergillus* sp. 2, *Aspergillus* sp. 3, batik dye effluent, biodegradation, macronutrient