

TEKNOLOGI PERTANIAN

Efficiency Analysis of COD and BOD decline of Coffee Wastewater in Phytoremediation Process
using Water Hyacinth (*Eichornia crassipes* (Mart.) Solms)

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ABSTRACT

Coffee washing wastewater contains high organics. If the wastewater is directly discharged into the environment, it can pollute and harm the environment, therefore the wastewater should be treated before it is discharged into the environment. Phytoremediation is a kind of wastewater treatment using plants. This study used water hyacinth and four concentration treatments i.e. wastewater with concentration 880 mg/l (Aquarium A), concentration 1520 mg/l (Aquarium B), concentration 3680 mg/l (Aquarium C), and concentration 17760 mg/l (Aquarium D). Concentration of coffee wastewater dilution was 17 760 mg/l. This research was conducted by measuring the parameters of COD and BOD. Results this research was phytoremediation by using water hyacinth at different concentrations can reduce the content of COD and BOD. The most effective water hyacinth planted in coffee waste water with low concentration was 880 mg / l (Aquarium A) which decreases the efficiency of COD, BOD, are respectively 95.45%, 95.61%.

Keywords : Coffee Wastewater, Phytoremediation, Water Hyacinth, COD, BOD