

**STUDY OF LAUNDRY WASTEWATER TREATMENT WITH ACTIVE
CARBON ADSORPTION METHOD AND ITS EFFECTS TOWARD
GROWTH OF AZOLLA**

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ABSTRACT

The current industrial laundry is thriving, but its development was not in line with the wastewater treatment resulting from production. For that, it needs to be processed and the levels of pollutants in the waste of laundry decreases. This research aims to know the influence of the use of active carbon toward the decreasing of laundry waste pollutants levels, as well as know how to handle the waste against the growth of Azolla. Research carried out using the method of Complete Random Design (RAL), implemented in 2 phases of research. Phase 1 i.e. the addition of active carbon on laundry waste with concentration 0 gr, 25 gr, 50 gr and 75 gr to 5L laundry wastewater. The analyzed parameters included: pH with the electrometric method, phosphate with APHA 2012 method, COD with spectrophotometry method, BOD with electrochemistry method, and the detergent with the spectrophotometry method. Research of phase 2 the utilization of the waste has been processed at stage 1 as Azolla planting media. The parameters observed is the growth of Azolla (fresh weight and dry weight) during 20 days of planting. The results showed that the use of active carbon on laundry wastewater does not change the pH significantly, increase levels of phosphate, decrease detergent, BOD and COD levels of laundry wastewater. The used of active carbon 25 g/5L laundry waste is the optimum concentration for planting Azolla.

Keywords: Laundry waste, Active carbon, Azolla.