

**REMEDICATION OF COPPER FROM SYNTHETIC
WASTEWATER USING ACTIVATED RICE HUSK AND
RICE STRAW AS BIOSORBENT**

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ABSTRACT

REMEDICATION OF COPPER FROM SYNTHETIC WASTEWATER USING RICE HUSK AND RICE STRAW AS BIOSORBENT

Rice husk and rice straw has potential in being biosorbent to adsorb heavy metals such as copper, zinc and nitrate in aqueous solution mainly wastewater. In this study, the objectives are to compare between the utilization of rice husk and rice straw as a biosorbent of copper from synthetic waste water and to optimize conditions for effective biosorption of synthetic waste water on copper ions. The results obtained from this study manifest that there are no significant between rice husk and rice straw in which the percentage adsorption for both of this biosorbents are almost similar except that rice straw give slight higher percentage adsorption (82.18%) compared to rice husk (79.12%). Therefore it has been chosen for optimization experiment for three different parameters which are adsorbent dosage, contact time and initial concentration of synthetic wastewater. The results showed that the best parameter for the biosorbent and copper ions to be removed are at adsorbent dosage of 1g, contact time at 30 minutes and initial concentration of the synthetic wastewater of 50 ppm. These three parameters have significant differences towards the adsorption of copper ions in the solution where p-value is less than 0.05. The optimum parameters were used to continue with batch adsorption experiment. Thus, the best percentage adsorption for copper ions is 81.21% in duration of 30 minutes.