

**BEHAVIOUR OF METHYLENE BLUE ADSORPTION ON  
COGON GRASS (*Imperata cylindrica*) ROOTS**

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## ABSTRACT

### BEHAVIOUR OF METHYLENE BLUE ON ADSORPTION COGON GRASS (*Imperata cylindrica*) ROOTS

The study of behaviour of MB on adsorption cogon grass were studied by using several parameters which are  $pH_{zpc}$ , pH, effect on adsorbent dosage, Isotherm studies and kinetic studies. The results have been shown that optimum pH was 6 with 0.05 g adsorbent dosage at 40 to 120 min. The ICR was characterized by using Fourier Transform Infrared. The determination of surface morphology can be done by using Scanning electron microscope coupled with Energy Dispersive X-ray spectroscopy (EDX). The calibration curve can be determined by using Ultraviolet spectroscopy (UV-VIS). The nonlinear regression kinetic and isotherm models were analysed in this study. The isotherm data was found to fit well with the Freundlich model and followed by pseudo-second-order for kinetic data. The maximum adsorption capacity is 68.59 mg/g for IC rhizomes. The results were proven that ICR can be a good natural adsorbent for methylene blue adsorption.