

POTENTIAL OF *SARACA INDICA* LEAF POWDER (SILP) FOR CHROMIUM REMOVAL FROM AQUEOUS SOLUTION

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The paper projects the potential of agricultural waste *Saraca indica* leaf powder (SILP) in biosorbing chromium from aqueous system. The influence of pH, contact time, metal concentration, biomass dosage and particle size on the selectivity of the removal process was investigated. The maximum sorption efficiency of SILP for Cr(III): 85.23% and Cr(VI): 89.67% was found to be pH dependent giving optimum sorption at pH 6.5 and 2.5 respectively. The adsorption process fitted well to both Freundlich and Langmuir isotherms. Morphological changes observed in Scanning Electron Micrographs of metal treated biomass confirm the existence of biosorption phenomenon. Fourier Transform Infra-red Spectrometry confirms that amino acid-Cr interactions contribute a significant role in the biosorption of chromium using target leaf powder. The successful applications of easily abundant agricultural waste SILP, as a biosorbent have potential for a low technological pretreatment step, prior to economically not viable high-tech chemical treatments for the removal of Cr from water bodies.