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Capacity of Adsorption of Cadmium (II) Ion by Bio-charcoal from Durian Barks

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Abstract

The study examined the adsorption capacity of definite amount of biocharcoal of Durian barks (*Durio zibethinus Murr*) to adsorb Cadmium ions at various pH. Biocharcoal was made by using pyrolysis method. The adsorption was monitored by measuring the Atomic Absorption of Cd (II) at 228.8 nm. Result shows that the optimum adsorption of Cadmium ion is 93.46% and the weight is 16.62 mg/g with 80 mg biocharcoal. The optimum pH is 7.0 with the percentage uptake of the cadmium ion 97.94%, and the weight is 17.42 mg/g. The optimum concentration is 20 ppm which can adsorb Cadmium ion 91.97%, or 11.42 mg/g. By using Langmuir isotherm equation, the highest adsorption of biocharcoal of Durian's barks measured is 33.33 mg/g, which is potential as commercial activated carbon.