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Investigation of the potential ability of *Phyllanthus emblica* fruit and *Strychnos potatorum seeds* for removal of cadmium(II) ions from aqueous solution

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Use of biosorbents for the removal of heavy metals is an attractive alternative to chemical treatment, due to their availability, low-cost and environmental friendliness. In this regard, investigation of the potential ability of the pulp of *Phyllanthus emblica* ('Nelli') and seeds of *Strychnos potatorum (*'Igini'*)* to remove Cd(II) ions, a toxic heavy metal, from aqueous solutions is attempted by focusing on the effect of experimental parameters, such as shaking time, settling time, sorbent dosage and Pb(II) as a possible interferent.

Both Cd(II)/biosorbent aqueous systems reached sorption equilibrium within a short time duration of 20 minutes, while shaken at a moderate speed of 50 rpm under laboratory conditions, indicating the availability of adsorption sites for Cd(II). The percentage removal of Cd(II) at equilibrium, as determined by atomic absorption measurements, by *Phyllanthus emblica* pulp and *Strychnos potatorum* seeds were 94% and 88%, respectively, confirming stronger affinity of the former towards Cd(II). This was further supported by the extent of removal of Cd(II) being not affected upon prolonged exposure to each biosorbent, under no-shaking conditions. Introduction of Pb(II) solution to Cd(II) solution in the presence of seeds of *Strychnos potatorum* led to an initial decrease of Cd(II) removal, followed by leveling off at higher concentrations. When both Cd(II) and Pb(II) ions were present at equal concentrations of 5 ppm, the removal of Cd(II) decreases from 88 % [in the absence of Pb(II)] to 25 % showing competitive sorption of the two species.

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