Uptake of Cadmium and Zinc from synthetic effluent by water hyacinth (Eichhornia Crassipes)

ABSTRACT

In this study was conducted on aquatic plant; water hyacinth (Eichchornia crassipes) which has been successfully utilized for the removal of cadmium (Cd) and zinc (Zn) from aqueous solutions. The overall metal uptake by the plant was dependent upon the concentration of the metal and the duration of exposure. In general, the metal content in plants increased with the increase in metal concentrations in solution and the metal accumulation in roots was always significantly higher than that in shoots for both metals in water hyacinth. Water hyacinth treated with 4 mg/L of cadmium accumulated the highest concentration metal in shoots (148 µg/g) and roots (2006 µg/g) and water hyacinth treated with solution containing 40 mg/L zinc accumulated the highest zinc concentration in shoots (1899 µg/g) and roots (9646 µg/g).

Keyword: Water hyacinth; Metal uptake; Cadmium; Zinc and accumulation