THE EFFECTIVENESS OF DIFFERENT AQUATIC PLANTS AS A BIOREMEDIATION AGENT

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The study conducted to access the solution to reduce the level of heavy metals in surface water which can effects human health regularly. The ability of three different species of water floating plants which are water hyacinth (*Eichhornia crassipes*), water lettuce (*Pistia stratiotes*), and salvinia *(Salvinia natan)* to absorb cadmium (Cd) and iron (Fe) was compared to identified the most effective bioremediation agent. The study was done in 4 weeks in a row and data collected for each week. The test was studied by collecting the water sample contained different plants studied and undergo the process of plant samples extraction. The comparison between initial and final reading of the metals have been performed where the Transection Models were placed. The heavy metals present in water and plants were analyzed using the Atomic Absorption Spectrophotometer (AAS). Then, the data were used to calculate on the Bioconcentration Factor (BCF) to access absorption ability was defined as the quantity of Cd and Fe absorbed in the plant's tissues, and was expressed as a root/shoot ratio. Pistia stratiotes had the highest Bioconcentration Factor of these trace elements when grown in water environments with low concentrations of the two elements. The concentrations in the shoot were in the order of Fe (6 ppm) > Cd (1ppm). As for root, the concentration were found in the order of Fe (15 ppm) > Cd (0.7ppm). Generally, the concentration of these two elements in the roots was 3 to5 times higher than those in the shoots. This study shows water lettuce to be a promising candidate for phytoremediation of surface water polluted with Fe and Cd.