studies on seporation of some elements having harard unprogron evironment using naturally avilable materiacl

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The work in this thesis deals with the study of the sorption and desorption behavior of the elements Cr, Pb , Co and elements that may exist in nuclear waste Eu and Cs, from aqueous media on samples of rice straw, wheat straw, maize straw and sugarcane residue. The possibility of separating these elements from amatrix containing them is also studied the thesis is composed of three chapters.Chapter1 : acontains concise survey about the studies on the sorption of some heavy metals and some radioactive elements that have great importance in nuclear fuel cycle on different kinds of straw rice (R.S), wheat(W.S)maize (M.S) and sugarcane residue (S.C). It also includes an account of the chemistry of the elements studied in this work aliterature review about the adsorption process, types of adsorption, adsorption isotherm and the desorption process is reported.Chapter 2 : summarizes the experimental part, the chemicals regents used, the preparation of the radioisotopes employed and the preparation of the adsorbents. It contains also adescription of the instruments used with special emphasis on the counting systems as well as the different experimental techniques used during the adsorption and desorption processes under different factors affecting these processes as pH, contact time , element concentration and type of media on different types of powdered straw, partical size of straw and V/m ratio. The moisture content of sugarcane was determind and found to be 17.7% maize straw9.66% .wheat straw 8.14% and for rice straw was7.79% all the straw sample were heated in the oven for 2 hours at 110 c befor use with elements.