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Removal of Uranium from Contaminated Soil Using Different Chelating Agents in Baghdad

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Abstract: In the present work, three chelating agents; EthyleneDiamineTetraaceticAcid (EDTA) as synthetic chelate, acetic and citric acids as Low Molecular Weight Organic Acids (LMWOA), were used to evaluate their performance in removing uranium from soil. Laboratory physical and chemical tests were performed for soil sample characterization. The Fluorometry technique was used for measuring uranium content. Effect of changing molarity and mixing ratios were studied as factors affecting removal efficiency. The results revealed that the removal efficiency increases with increasing molarity and mixing ratio. Furthermore, the study showed that EDTA was highly effective in removing uranium. The removal efficiency of up to 92% was achieved from citric acid.

Keywords: Uranium, soil, chelating agents, soil washing.

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