CADMIUM REMOVAL FROM AQUEOUS SOLUTION BY MODIFIED LOW COST ADSORBENT(S): A STATE OF THE ART

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ABSTRACT

The agricultural waste has been investigated as a replacement for costly methods of removing heavy metal from water. Cadmium (Cd) is one of the heavy metals, which is highly toxic to human, plants and animals. Some of agricultural waste can be effectively used as a low cost adsorbent in cadmium adsorption. Modification could enhance their natural capacity and add value to the adsorbent. In general, chemically modified plant wastes exhibit higher adsorption capacities than unmodified forms. Numerous chemicals have been used for modifications which include mineral and organic acids, bases, oxidizing agent, organic compounds, etc. In this review, Agricultural wastes as adsorbents including Rice husk, Sawdust (cedrus deodhar wood), Sawdust (Pinus sylvestris), Walnut sawdust, Juniper fibre, Sugarcane bagasse, Wheat bran, Cassava, tuber bark waste, Cassava waste, Corncorb, Coirpith, and others has been compiled. Some of the modified adsorbents show good adsorption capacities for Cd, The present paper reviews various techniques being followed and research efforts being made for removal of Cd(II) from aqueous solutions with modified adsorbents.

KEYWORDS: Cadmium, Adsorption, Agricultural Waste Adsorbents, Modified Adsorbents