Application of pomegranates peels for treatment of hardwater.

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**Abstract**

Water is known to be life sustainable, therefore, availability of pure water is essential in every day life. Due speedy increase of population, industrialization and urbanization, large number of pollutants are discharged into water, which makes water harmful to health and hazardous to environment. Most important pollutants are, organic compounds such as dyes, and in organic compound such heavy metal ions and salts. There are variety methods used in water purification. One of most popular methods is adsorption, which is found to be the most economical and efficient technique. To make this method, suitable and low-cost adsorbents are required. The large amount of waste production worldwide and the necessity for cheap adsorbents to reduce wastewater treatment costs. A number of agro-industrial wastes and chemically modified wastes are being used has been used as adsorbents for the removal of organic pollutants (dyes and organic compounds) and inorganic pollutants (heavy metals and different ions) from wastewater. Removal efficiencies by chemically modified agro-industrial wastes are found much higher as compared to raw wastes because they have higher surface area and porosity. In this proposed research we are planning to use different agricultural wastes and modify it to produce an efficient adsorbent for removal different pollutants from wastewater. Effect of different parameters on removal efficiency will be described. Adsorption isotherm models and kinetic models will be discussed. Process of desorption and reuse will also take into consideration.