

Preparing of activated charcoal from Jordanian olive husk and its adsorption efficiency

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Olive husk is a significant agricultural waste in Jordan, which can be converted into activated charcoal with various beneficial applications ranging from water purification to drug detoxification. However, understanding the adsorption capacity of the prepared activated charcoal is a prerequisite to employ them into practical applications. In this project we prepare “activated charcoal” from Jordanian olive husk by thermal pyrolysis and evaluate their capability as an (adsorbent) to sequester methylene blue as a model molecule (adsorbate) from an aqueous solution. Adsorption isotherms were found to follow Freundlich model, which were used to obtain experimental values of adsorption capacity and equilibrium adsorption constant. This work is part of our broader interest to evaluate the capability of Jordanian charcoal to sequester a library of active pharmaceutical agents and act as pharmaceutical detoxification agent upon ingestion of high doses of medications.