Exploring the potential of *Cucurbita pepo* seeds in removal of pesticides by adsorption studies from aqueous solutions: An Eco-Friendly Approach

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**Abstract**

Contamination of water resources with agrochemicals and/or industrial chemicals is of growing concern. Frequent application of pesticides and fertilizers in the agricultural sector may result in contamination of water resources. Then, it is necessary to adopt a good prevention strategy because the water has a low self-purification capacity. Methyl parathion is a broad spectrum organophosphorous insecticide generally used to control variety of insects. It is a highly toxic pesticide, and humans are susceptible to its acute toxic effects by various routes of exposure. In this study the removal of methyl parathion pesticide from aqueous solution by batch adsorption technique using green adsorbent was investigated. Sulphuric acid activated carbon produced from [*Cucurbita pepo*](http://en.wikipedia.org/wiki/Cucurbita_pepo) seeds were utilized for the removal of methyl parathion from aqueous solution. Different adsorption parameters such as initial methyl parathion concentration, contact time and temperature were studied using a batch system. Thermodynamic parameter’s negative values indicate the exothermic and spontaneous nature of adsorption process. The experimental results obtained in this work show the possibility of producing activated carbon with good adsorption capacity from [*Cucurbita pepo*](http://en.wikipedia.org/wiki/Cucurbita_pepo)seeds.

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