



## Evaluation of Seeds of *Phoenix sylvestris* as Novel Candidate Adsorbent in Paracetamol Poisoning

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**SUMMARY.** The adsorption of certain metal ions and dyes on powdered seeds (pits) of *Phoenix sylvestris* (*Arecaceae*) suggests the investigation of such material for the adsorption of oral poisoning substances from the gastrointestinal tract. Therefore, the present study was undertaken to prepare different types of adsorbents from date pits and explore their adsorption capacity for paracetamol at two physiological conditions, enzyme free simulated gastric and intestinal fluids. The activated charcoal was used as a control. The equilibrium contact time, determined by combining the three forms of date pits and activated charcoal separately with paracetamol in a ratio of 15:1 w/w in both the fluids, was found to be 60 min. The adsorption of all the adsorbents for paracetamol was investigated by increasing the amount of adsorbents while keeping the amount of adsorbate fix, and the data obtained was found to be fit in the Langmuir isotherm. The bonding constants of all the adsorbents were significantly different in SGF ( $p < 0.05$ ), whereas not significantly different in SIF. The adsorption capacities of all the adsorbents were not significantly different in SGF, whereas, significantly different in SIF ( $p < 0.05$ ). The results of this study indicate that date pits may be used to prepare activated carbon that may serve as an economical adsorbent for the management of paracetamol oral poisoning cases.

**KEY WORDS:** Adsorption capacity, Equilibrium contact time, Paracetamol poisoning, *Phoenix sylvestris* pits.

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