

ABSTRACT :

Agriculture residue (peach stones) was valorized to produce low-cost activated carbon. Granular peach stones were activated by H_3PO_4 after heating treatment. The peach stones activated carbon (PSAC) was characterized by Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy (SEM), energy-dispersive X-ray spectroscopy (EDX) and nitrogen adsorption (BET). The simply prepared carbon was high-quality adsorbent with well-developed surface area and essentially microporous structure. PSAC was applied for Cr(VI) removal in batch system from aqueous solution. Cr(VI) removal was found 99.58% at pH 5.6. Investigations carried out proved that PSAC is an efficient and economic adsorbent for the treatment of toxic hexavalent chromium.