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Characterization of apricot stone shells as a rapid filter medium

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ABSTRACT

Two different size fractions of crushed apricot stone shells were prepared and characterized to investigate the use of this material in granular filters. Density, equivalent diameter, percent water absorption, sphericity, and bed porosity were determined to characterize the particles. Two different sets of leaching tests were performed to quantify the amount of organic matter released from apricot stone medium in water: (i) the amount of organic carbon that passes to water when the particles and water are contacted in a well-mixed batch container, and (ii) the organic carbon found in the filtrate of a fixed bed of apricot stone particles. The Ives' filterability test was employed to evaluate the effectiveness of removing particulates from a surface water as a function of apricot stone fraction size and coagulant dosage.

Keywords: Crushed shells of apricot stones; Filterability; Rapid filtration; Particle characterization

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