

Minimum fluidization velocity of Palm Kernel Cake particles in fluidized bed fermenter

Abstract

This study measured the minimum fluidization velocity of Palm Kernel Cake (PKC) particles. PKC was used as it is a potential substrate in solid state fermentation. A laboratory scale fluidized bed reactor has been fabricated for this investigation. Minimum fluidization velocity (U_{mf}) for sand particles was initially tested to ensure the workability of the set up. Subsequently, U_{mf} for 855, 655 and 363 μm particle size of PKC were measured and found to be 0.340, 0.205 and 0.080 m sec^{-1} . This study showed that U_{mf} increased with the increased of PKC particle size. This indicated that PKC particle can be fluidized and investigation of its fermentation in fluidized bed fermenter is feasible. © 2007 Asian Network for Scientific Information.