International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development (IJCSEIERD)
ISSN(P): 2249-6866; ISSN(E): 2249-7978
Vol. 4, Issue 2, Apr 2014, 9-14
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"DAIRY WASTEWATER TREATMENT USING COCONUT SHELL ACTIVATED CARBON & LATERITE AS LOW COST ADSORBENTS"

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ABSTRACT

The main aim of this is the assessments of reduction of chemical oxygen demand (COD) & biological oxygen demand (BOD) from dairy wastewater using low cost adsorbents like coconut Shell Activated Carbon (CSAC) & laterite in Fix Bed Stationary Phase. The other parameters like viscosity, specific gravity. Total suspended solids, pH are effectively reducing by Mixed Bed Stationary Phase of different ratios.

Treatment efficiencies of Fixed Bed Stationary Phase adsorbents of different ratios are compared. The complete study was done in Column Chromatography to investigate the effect of operating parameter. The result of before and after treatment is compared & optimum operating conditions were determined for maximum reduction

The mixed bed stationary phase Coconut Shell Activated Carbon (CSAC) & laterite reduced COD upto 72.85% & BOD reduces upto 76.75% in 1:1 ratio & 2:1ratio of CSAC to laterite, COD reduces upto 75.3% & BOD reduces upto 79.69% & finally 1:2 ratio of CSAC to laterite, COD reduces upto 80.65% & BOD reduces upto 81.09%, this is the maximum reduction in the COD & BOD concentration from effluent of dairy processing plant. It could be lucrative technique for treatment of dairy wastewater generated in different sectors.

KEYWORDS: Chemical Oxygen Demand (COD), Coconut Shell Activated Carbon (CSAC), Laterite Reduced COD