

Performance of an Anaerobic Baffled Reactor (ABR) Treating High-Strength Food Industrial Wastewater with Fluctuating pH

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Abstract : As awareness of the variable nature of food industrial wastewater and its environmental impact grows, a more stable treatment reactor is needed to treat such wastewater. In this paper, a performance of 5-compartment lab-scale Anaerobic Baffled Reactor (ABR) treating high strength wastewater with high pH variation was studied under three organic loading rates (OLRs). The reactor showed high COD removal efficiencies: 92.67, 97.44, and 98.19% corresponding to OLRs of 2.0, 3.0, and 4.8 KgCOD/m³ d, respectively. The first compartment showed a good buffering capacity and a distinct phase separation occurred in the ABR.

Keywords : anaerobic baffled reactor, food industrial wastewater, high strength wastewater, organic loading, pH

Conference Title : ICEME 2014 : International Conference on Environmental Management and Engineering

Conference Location : Zurich, Switzerland

Conference Dates : July 30-31, 2014