Desalination and Water Treatment
www.deswater.com

doi:10.5004/dwt.2019.24194

160 (2019) 94–109
August

Critical review on biological treatment strategies of dairy wastewater

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Received 5 December 2018; Accepted 30 March 2019

ABSTRACT

Dairy products are one of the richest sources of vital nutrients in the diet of human beings and it occupies an important place in satisfying their nutrient requirements. The dairy products possess a very short lifespan and during their decomposition create a huge nuisance to the environment. The dairy effluents discharged from the industries are mainly composed of complicated substances such as organic compounds, inorganic compounds, carbon, nitrogen, phosphorus, chlorides, sulphides, fats, oils, grease, etc. These organic loading present in the dairy effluent have a negative impact on the environment during its discharge to nearby water sources. The physical and chemical treatment of the dairy effluents is not as effective as the biological treatment. The biological treatment method is found to be the superior method for treating the dairy effluent. The biological wastewater treatment can be performed in two various conditions such as aerobic and anaerobic. The treatment methods such as aerobic lagoons, activated sludge, sequential batch reactor, trickling filter, completely stirred tank reactors, fluidized bed reactors, and anaerobic filters are some of the biological methods used in dairy effluent treatment. This review article has investigated in detail regarding the environmental impact of dairy effluents and their effective treatment using biological treatment technologies

Keywords: Dairy industry; Biological treatment; Aerobic; Anaerobic; Wastewater

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