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Characteristics of water quality and extracellular polymeric substances in trickling filter system using plastic fiber media

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ABSTRACT

In this study a trickling filter system was developed by using polypropylene media and polypropylene nylon media that has recently been developed. The experiment analyzed an ability of water purification of the two plastic media and the effects of biomass on the final effluence. As recycling ratio increased, polypropylene nylon suspender showed higher efficiency by 20%; and when media height was lengthened two times, the efficiency increased by about 10%. Extracellular polymeric substances (EPS) and biomass increased in proportion to the increase of recycling ratio, and bound-TOC showed a similar trend with bound-EPS concentration.

Keywords: Trickling filter system; Extracellular polymer substances; Biofilm; Plastic fiber media

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