

Characterization of bio fouling in membrane bioreactor

ABSTRACT

Biofouling that formed in membrane bioreactor impacted the performance of membrane bioreactor. This study investigates the impact of biofouling in terms of the concentration of soluble microbial product on the characteristics and the fouling potential of lab scale membrane bioreactor. The performance of membrane bioreactor reduced significantly with reduction in the initial flux, and dramatic transformation in surface morphology and roughness occurred. The small size of residual organic substances further facilitates membrane fouling by pore blockage. It can be concluded that SMP influence fouling under certain condition of membrane bioreactor.

Keyword: Biofouling; Membrane bioreactor; Soluble microbial product; Wastewater