



Influence of support media on COD and BOD removal from domestic wastewater using biological treatment in batch mode

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ABSTRACT

The objective of this work is to study COD and BOD₅ reduction of domestic wastewater using biological denitrification provided by anaerobic flora attached to different support media (pouzzolane irregularly shaped, foam (polyurethane) cube-shaped, two different types of PVC (polyvinyl chloride), PET (polyethylene terephthalate), and PS (polystyrene)) Under optimum conditions, maximum reduction and maximum COD and BOD₅ reduction achieved using PVC1 and PVC2 were 64.33 and 58.93%, and 80.1 and 72.1%, respectively. Results showed that PVC offered potential benefits for COD and BOD₅ removal from wastewater. Results showed that PVC promotes bacterial adhesion and biofilm formation compared to other support media and offered potential benefits for COD and BOD₅ removal from wastewater.

Keywords: Batch mode; BOD; COD; Denitrification; Wastewater treatment

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