

接触ばっ気槽からの硝化細菌の流出現象と N - BODへの影響

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概 要

接触ばっ気方式浄化槽での汚水の処理過程における水質変化を調査した。

接触ばっ気槽ではBOD除去と硝化反応の進行が認められたが, 処理水BODに占めるN - BODの比率も高いことが示された。

その沈殿槽流出水には亜硝酸細菌の生菌数が1 mlあたり $10^3 \sim 10^4$ オーダーで検出された。これは接触ばっ気槽の付着汚泥が流出したためであるが, 特に, 接触ばっ気槽の逆洗時に十分な汚泥移送を実施しなかったり, ミジンコや貝類が多量に出現した場合に顕著であった。

一方, 消毒後の亜硝酸細菌数は1 mlあたり 10^2 オーダー以下に低下し, N - BODの割合も急激に低下することが明らかとなった。

Nitrifying Bacterial Population in Contact Aeration Tank Effluent and its Effects on N - BOD Value

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Abstract

An investigation was made about the effluent quality fluctuation from several domestic wastewater treatment facilities including contact aeration system. C - BOD removal was high and nitrification proceeded to some extent in contact aeration tank, but high N - BOD to total BOD ratio was observed.

Nitrite bacteria was detected in number of $10^3 \sim 10^4$ cell/ml in the effluent from final settling tank. It was the reason that bio-films were flowing out from contact aeration tank, especially, it was remarkable when sloughed sludges were remained after backwash, Crustaceans and Gastropods grew abnormally.

Disinfection by chlorination was very effective, however, to decrease Nitrite bacterial number below 10^2 cell/ml and to lower the ratio of N - BOD remarkably.