〈論　文〉

小型合併処理浄化槽の放流水BODの時間変動特性

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概　要

小型合併処理浄化槽の放流水BODの時間変動を明らかにする目的で，嫌気ろ床接触ばっ気方式の27施設について，通日にわたりBOD等の水質を測定した。

Cyclops sp.の多量発生などに伴いN-BODが高い3施設を除く施設では，放流水BODは，SSの変動パターンと同様な変動パターンを示し，汚水の時間最大流入あるいは3時間最大流入の時間帯で日間最大値となり，その他の汚水の流入時間帯はほぼ同じ値であった。さらに，放流水BODの変動幅は接触ばっ気槽内水の透視度，流入汚水量の時間変動の大きさに影響され，変動幅が大きい施設ほど日間平均値が高くなる傾向が認められた。また，放流水BODの日間平均値は，接触ばっ気槽内水の透視度が30cm以上では流入汚水量の時間変動の大きさに係わらず10mg/l以下であるのに対し，30cm未満では時間最大汚水量が沈殿槽容量の約4割以上，3時間最大汚水量が沈殿槽容量の約6割以上となると20mg/lを超えることが明らかとなった。

Characteristics of Effluent BOD Fluctuation of Small Scale Gappei-shori Johkasous

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Abstract

To examine characteristics of effluent BOD fluctuation of small scale gappei-shori johkasous, 27 johkasous of anaerobic-aerobic submerged biofilter process were selected, and 24-hours surveys of these johkasous were carried out in which the whole quantity of effluent from the johkasou was collected and effluent BOD for every 100 litters effuent was measured.

The results show that fluctuation of effluent BOD seems to be showing a similar way of that of effluent SS, indicating that the peak of effluent BOD and SS appears when wastewater flows into the johkasou at maximum hourly flow rate or at maximum flow rate in three hours, except three johkasous in which lots of *Cyclops* sp. are observed and their effluent N-BOD showed large value by this reason. It was found that fluctuation of effluent BOD is heavily affected by factors such as transparency of water in aerobic submerged biofiller chamber and fluctuation of inflow rate, and that greater fluctuation

of effluent BOD results in larger average of effluent BOD. The average BOD shows value smaller than 10 mg/l when transparency of water in aerobic submerged biofilter chamber is larger than 30 cm no matter how great the fluctuation of inflow rate is. If the transparency is smaller than 30 cm, the average BOD will be larger than 20 mg/l under the condition that the ratio of volume of sedimentation chamber to the maximum hourly flow rate, or to the maximum flow rate in three hours is smaller than 2.5 or 1.5 respectively.

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