Granulacja osadu czynnego w reaktorze SBR

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Granulation of activated sludge in SBR reactor

Summary
The effect of bioaugmentation with nitrifying bacteria on activated sludge granulation in column SBR was determined. Two reactors (R1, R2), operating at hydraulic retention time of 0.62 d, wastewater exchange ratio of 80%, and settling time of 5 minutes, were employed for the removal of organic, nitrogen and phosphorus compounds from the mixture of synthetic wastewater and wastewater from sludge dewatering (COD/N = 2.4). After 50 days of cultivation, mature granules appeared. In the last stage of the experiment COD, nitrogen and phosphorus load was about 0.3 g COD·g TSS^{-1}·$cycle^{-1}$, 0.08 g N·g TSS^{-1}·$cycle^{-1}$, and 0.02 g P·g TSS^{-1}·$cycle^{-1}$. COD and phosphorus removal rates were at the level of 60 and 50%, respectively. Bioaugmentation positively influenced nitrification efficiency in the reactor.

Key words:
cultivation of granulated sludge, bioaugmentation, nitrification efficiency

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