

**LONG-TERM EFFECT OF CYCLE TIME AND AEROBIC/ANOXIC PHASE
RATIO ON NITROGEN REMOVAL IN A SEQUENCING BATCH REACTOR**

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ABSTRACT

A lab-scale Sequencing Batch Reactor (SBR) was used for the study of nitrogen removal from a synthetic wastewater with an ammonium-nitrogen concentration of 50 mg/L. In terms of nitrogen removal efficiency, the set of eight hours cycle and 1:3 aerobic/anoxic ratio was found superior, exhibiting a percentage nitrogen removal of $77\pm 2.5\%$. It is also demonstrated that under certain operating conditions, direct nitrogen removal (ammonium- to gas nitrogen) is observed, as nitrification and denitrification are bypassed.