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两段式混合滤料渗滤系统处理模拟废水

Treatment of simulated wastewater by two-stage mixed media infiltration system

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中文摘要：

两段式混合滤料渗滤系统在土壤渗滤系统的基础之上，加强反硝化反应，进而强化脱氮过程。为强化脱氮，整个系统被分成好氧段和厌氧段。混合滤料的使用可有效防止系统堵塞。厌氧段添加的锯末草灰为反硝化反应提供了足够的碳源，因此运行初期厌氧段内NO^-_3-N去除率可达100%。同时铁屑的添加除强化还原环境外还加强了TP的去除效果。采用模拟废水的研究结果表明：运行稳定后，该系统对COD、NH^+_4-N、TN和TP的平均去除率分别达到了87.7%、82.6%、 81.0%和90.4%。

英文摘要：

In the present study, two-stage mixed-media infiltration system was developed for treating simulated wastewater. To improve the nitrogen removal efficiency, the system was divided into aerobic stage and anaerobic stage. It was found that the mixed-media filled in the system had good performance for solving the clogging problem which is always observed in traditional soil infiltration. Sawdust and leaf powders were added in anaerobic stage to provide organic carbon source which was needed in denitrification process, so NO^-_3-N removal efficiency was 100% in anaerobic stage during the initial period. Moreover, the reduction environment was improved and the TP removal efficiency was increased by iron addition in the anaerobic stage. The results indicated that the average removal efficiency of COD, NH^+_4-N, TN and TP reached 87.7%, 82.6%, 81.0%, 90.4%, respectively.

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