

## Effects of Hydraulic Loading Rates and Porous Matrix in Constructed Wetlands for Wastewater Treatment

**Authors :** Li-Jun Ren, Wei Pan, Li-Li Xu, Shu-Qing An

**Abstract :** This study evaluated whether different matrix composition volume ratio can improve water quality in the experiment. The mechanism and adsorption capability of wetland matrixes (oyster shell, coarse slag, and volcanic rock) and their different volume ratio in group configuration during pollutants removal processes were tested. When conditions unchanged, the residence time affects the reaction effect. The average removal efficiencies of four kinds of matrix volume ratio on the TN were 62.76%, 61.54%, 64.13%, and 55.89%, respectively.

**Keywords :** hydraulic residence time, matrix composition, removal efficiency, volume ratio

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