

Application of (*Typha Latifolica*) and (*Polygonum aviculare*) for Ahwaz Urban Wastewater Treatment

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Abstract

The purpose of this study was to evaluate the effect of phytoremediation on reduction of phosphate, nitrate, chemical oxygen demand (COD) and biochemical oxygen demand (BOD) of Ahwaz wastewater during 90 days (2018). A completely randomized design with 4 treatments and 3 replications was used for this experiment. The plants of *Typha Latifolica* and seven grasses (*Polygonum aviculare*) were selected according to the tropical climate of Khuzestan province. In this study, percentage of removal of biochemical oxygen demand, chemical oxygen demand, nitrate, phosphate by Louis plant were 55.40, 59.13, 57.35, 52.38%, respectively. Also, the removal efficiency of the studied parameters by seven-plant grass was 25.89%, 61.80%, 73.98% and 59.04%, respectively. Nitrate, phosphate removal efficiency was higher in seven-stroke grass than in Louis. According to the results of the two treatments, *Typha Latifolica* and *Polygonum aviculare* had effects on biochemical oxygen demand, chemical oxygen demand, phosphate and nitrate decreased this parameter over the remaining 90 days. The values of biochemical oxygen demand, chemical oxygen demand, acidity, electrical conductivity were lower than those of Iranian and US Environmental Protection Agency standards for agricultural irrigation use, but higher nitrate levels.

Keywords: *Typha Latifolica*, *Polygonum aviculare*, Wastewater, Ahvaz.