

PHYTOREMEDIATION OF NITRATE IN WATER BY A SEMI-AQUATIC VEGETABLE

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ABSTRACT

The potential to phytoremediate water loaded with nitrate by *Ipomoea aquatica* was assessed in this study. Ten treatment combinations with five levels of nitrate N (0, 10, 20, 40 and 50 mg/L) and two levels of P (0 and 5mg/L) were treated to 3 liters of ground water. The design used was a two factor factorial with three replicates. Water was analyzed at weekly interval for nitrate N and P. *Ipomoea.aquatica* had the potential to remove nitrate N between 29.3-75% during three weeks in different treatments. In addition, 75%-83.3% of P was also removed from water. Total nitrogen and total phosphorus content in plants shows an increasing trend with increasing concentration of nutrients in water. The highest nitrate N in tissues of *Ipomoea aquatica* was recorded as 26.3 mg/kg, which was grown in water having 54 mg/L of nitrate. Therefore after remediation treatment *Ipomoea aquatica* could be used as vegetable without any harmful effects.