

# **PHYTOREMEDIATION OF NITRATE AND PHOSPHORUS FROM WATER**

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## **ABSTRACT**

An experiment was carried out to assess the phytoremediation potential of common moss (Bryophytes), for nitrate N and phosphorus from these nutrients treated water. Ground water was used in all experiments. The water used in the experiments had a pH of 6.9, nitrate N of 4 mg/l and available phosphorus of 0.4 mg/l. Open plastic bottles were used to grow the plants. A total of twelve treatment combinations including four levels of nitrate N (0, 20, 40 and 60 mg/l) and three levels of P (0, 20 and 40 mg/l) were treated for the volume of 3 liters of water in each treatment. In each treatment 15 grams of moss was added. The design used was a Complete Randomized Design of two factor factorial with three replicates. Water was analyzed at weekly interval for nitrate N and P. At the end of the experiment nutrient analysis of plants was carried out. Moss had the potential to remove nitrate N between 29-90% from different concentration tested. In addition moss removed 90-99.6% of P from water during the period of 4 weeks. Total nitrogen and total phosphorus content of moss were varied between 1.5-2.7% and 1.6-2.2% respectively. Results therefore indicate that common moss has the potential to remove nitrate and phosphorus from such nutrient loaded water in the tested range.