

PHYTOREMEDIATION OF CHROMIUM (VI) BY *Ipomoea aquatica*
(KANKUN)

D.M.S.N. Ariyawansa¹, R. Weerasooriya², P.A. Weerasinghe¹

¹Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.

²Institute of Fundamental studies, Kandy, Sri Lanka.

Chromium (VI) is a major pollutant in wastewater. Its removal is necessary for the protection of the environment. Phytoremediation is used as an environmental friendly wastewater treatment method. *Ipomoea aquatica* or 'kankun' was grown in coir dust media to determine the potential of the phytoremediation in solutions containing $K_2Cr_2O_7$ ranging from 20 ppm to 160 ppm to mimic wastewater conditions. The system achieved more than 75% of Cr (VI) absorption efficiency up to 80 ppm of $K_2Cr_2O_7$. The plants can absorb Cr (VI) uniformly but at a lower absorption efficiency when the $K_2Cr_2O_7$ concentration increases above 80 ppm. The growth of *Ipomoea aquatica* was not affected by chromium (VI) concentration and remained healthy even at higher concentrations. Results also showed that chromium (VI) was not absorbed by coir dust. Thus the results indicated that *Ipomoea aquatica* is suitable as an efficient phytoremediant for the removal of chromium (VI) from industrial wastewater.

Keywords: *Ipomoea aquatica*, Chromium (VI), Phytoremediation, Wastewater treatment