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Evaluation of heavy metal scavenging competence by *in-vivo* grown *Riccinus communis* L. using atomic absorption spectrophotometer

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The contamination of agricultural lands caused by heavy metals in and around peri-urban areas is a serious problem for today and for future concern. Most of the soil contaminants can be removed by many other physical methods but the heavy metal pollution of vast cultivated land areas are a serious threat to absorb the heavy metals of the soil, behaving as natural phytoremediates. *Riccinus communis* L. is a tropical plant that grows under various habitats and has multiple economic uses. It is a fast growing plant and adapts easily to various conditions, dominate quickly a community and produce monotypic stand. The present study was conducted to evaluate the scavenging efficiency of *in-vivo* gown *Riccinus communis* L. for the uptake of Cd, Pb, Cr and Ni. Excessive heavy metal accumulation can be toxic to most plants leading to reduction in seed germination, root elongation and biomass production; inhibition of chlorophyll biosynthesis as well as disturbance in cellular metabolism and chromosome distortion. For studying the heavy metals load of sewage sludge and their effect on crop quality in relation to non-applied sites, solid sludge and oil plant *Riccinus communis* L. was collected from seven STPs viz. Howrah, Garulia, Bhatpara, Nabadwip, Srirampur, Kona, Chandannager and from the Peri-urban areas viz. Nadia/Chakdaha/Ektapur(N/C/E), Nadia/Chakdaha/Pumlia, Nadia/Chakdaha/Sikarpur(N/C/S), Nadia/Chakdaha/Tatla (N/C/T). The results suggest that oil plant like *Riccinus communis* L. has more scavenging capacity for Pb and Cr and if this plant is cultivated in sites abundant with above heavy metals, this would scavenge the heavy metal toxicity from the soil.

Biography

Prasann Kumar is the PhD student in the Department of Plant Physiology, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi, doing his research work on heavy metals toxicity. He has completed International Agricultural Rural Development Programme from Cornell University, USA. Mr. Kumar is the recipient of TWAS-BIOVISION. NXT. 2014 (FRANCE) and YOUNG SCIENTIST AWARD 2014 (BIOVED RESEARCH SOCIETY, ALLAHABAD). He has qualified GATE, ICAR-NET, UGC-JRF-RGNFD, besides being a UGC-Research Fellowship of BHU. He already has 56 publications including research paper, review articles, book chapters, popular articles and books of International and National Repute.

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