JEP> Vol.2 No.5, July 2011

OPEN ACCESS

Assessment of Organochlorine Pesticide Residues in the Surface Sediments of River Yamuna in Delhi, India

PDF (Size:1422KB) PP. 511-524 DOI: 10.4236/jep.2011.25059

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ABSTRACT

The present study reports the concentration levels and distribution patterns of the organochlorine pesticide residues in the surface sediments of river Yamuna in the Indian capital state, Delhi. Analytical measurements were carried out for twenty organochlorine pesticides (OCPs) in the Pre-monsoon, Monsoon and Post-monsoon seasons, at six different sampling locations along the 22 km stretch of the river Yamuna in Delhi. The results revealed contamination of the surface sediments with several persistent organochlorine pesticides. Endrin aldehyde, Endosulfan sulfate and DDT showed the highest percentage composition of OCP at all the sampling sites in all the three seasons. The total organochlorine pesticides level ranged from 157.71 - 307.66 ng/g in Pre-monsoon to 195.86 - 577.74 ng/g in Monsoon and 306.9 - 844.45 ng/g in the Post-monsoon season. This not only demonstrates the pollution of the river with pesticide residues, but also the necessity of a continuous long-term monitoring of the affected environment.

KEYWORDS

Persistent Organic Pollutants (POPs), Organochlorine Pesticides (OCPs), Yamuna River, Sediments

Cite this paper

P. Pandey, P. Khillare and K. Kumar, "Assessment of Organochlorine Pesticide Residues in the Surface Sediments of River Yamuna in Delhi, India," *Journal of Environmental Protection*, Vol. 2 No. 5, 2011, pp. 511-524. doi: 10.4236/jep.2011.25059.

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