عنوان مقاله:

Accumulation and distribution of persistent organochlorine pesticides and their contamination of surface water and sediments of the Sabarmati River, India

محل انتشار:

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خلاصه مقاله:

Pesticides are chemical substances used to control pests in an effort to increase crop production and quality, and food storage. The levels of pesticides in different environmental compartments, such as water, soil, agricultural foods, and products of animal origin, have become a relevant issue. In this study, the levels of pesticide residues in Sabarmati River of Gujarat, India, have been investigated using surface water and sediment samples as a case study to find the extent of contamination and accumulation in the River. Thus, 3 organochlorine pesticides (OCPs), namely dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCH), and endosulfan, and their isomers were analyzed in the River through gas chromatography (GC) (Shimadzu, 2010) using an electron capture detector (ECD). The present research is very vital and holds a great significance for a developing nation like India. There is a lack of such studies in India and a similar study has not been carried out on the Sabarmati River since 1998. In some cases detected concentrations were higher than the standard set by the Indian Bureau of Standards as well as theEuropean Union. ΣOCP residues detected in surface water and sediments samples of the Sabarmati River ranged between below detection limit (BDL) and 392.71 µg/l and BDL-1393.81 ng/g.

کلمات کلیدی:

Organochlorine Pesticides Residue, Analytical Determination, Gas Chromatography