

Pollution potential of the pesticides in the Hindon river

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ABSTRACT

The preservation and improvement of water quality is very important aspect and its demand is increasing continuously. Among various organic, inorganic and biological water pollutants, pesticides are very dangerous and harmful because of their tissue degradation and carcinogenic in nature. The pesticides are bioaccumulative and relatively stable and, therefore, require close monitoring. In view of this, attempts have been made to find out the pesticides pollution potential in the Hindon river which is the most important and polluted river in Western UP.

The total samples (pre-monsoon) collected were 34 including 13, 13 and 8 samples of the Hindon water, sediments and its tributaries and effluent drains respectively. The same set of the sampling was also collected in post-monsoon season. The total detected pesticides were lindane, malathion, BHC, p,p'-DDD, o,p'-DDT, and methoxychlor. The concentrations of these pesticides were high in sediments comparatively to the Hindon water and its tributaries and effluent drains. The presence of the pesticides in river sediment shows the self purification capacity of the river by adsorption process. The concentrations of these pesticides in water, sediment, tributaries and effluent drains were also higher in comparison to the maximum permissible limits indicating the pesticides pollution of the Hindon river. It has been observed that the agricultural activities are the main source of pesticide pollution (non point). Besides, the presence of the pesticides in the Hindon tributaries and effluent drains indicates that these tributaries and effluent drains are also polluting (point source) the Hindon river.

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