

Organochlorine Pesticide Residues in Fish from Lake Naivasha and Tana River, Kenya

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Abstract

Organochlorine pesticides such as DDT, dieldrin and lindane are pesticides used in agriculture and public health. The chemicals persist in the environment and accumulate in fatty tissues of living organisms. Toxicity of organochlorines in non-target organisms is mainly due to chronic exposure to sublethal doses of the chemicals. Some of the documented detrimental effects of the pesticides in these organisms include liver microsomal enzyme induction (Oestreicher, 1971), tumor induction (IARC, 1974), egg-shell thinning in birds (Chang and Stockstad, 1975) and reduced egg hatchability in fish. Organochlorine pesticides were widely used in Kenya between the mid 1940's and late 1970's in agriculture and aerial control of mosquitoes in the Lake Victoria region. However, only a few studies have been done to investigate the occurrence of the pesticide residues in Kenyan fish. The main objective of the present study was to identify and quantify organochlorine residues in fish from Lake Naivasha and Tana River so as to assess the extent of contamination of the fisheries by the pesticide residues and evaluate the toxicological significance of the findings.