

PCB - experiences in Finland

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The occurrence of PCB in the environment in Finland was verified in 1967 by the State Veterinary Medical Institute. Analyses of chlorinated pesticides were made, for instance, in connection with the international research project coordinated by OECD, and PCB was found in all samples or tissue homogenates of mussel, pike and starling representing brackish water, fresh water and terrestrial food chains, respectively.

Only the research team formed by Miss Eeva Karppanen, Mr. Kurt Henriksson and the author has so far been working with the occurrence of PCB in animal samples in Finland. Further analyses of PCB in animal samples of various species have confirmed the idea of common occurrence of small amounts of PCB in the environment in Finland. The concentrations found do not differ considerably from those found in Sweden and Norway. About 100 fish samples reveal that concentrations in samples from coastal waters are higher than in those from inland lakes. Pike samples from the delta area of the river Kokemäenjoki (Kumoälvi) show signs of local contamination.

Highest concentrations have been found in ringed seals from the Gulf of Finland (mean of 8 speck samples 40.1 ppm in fat). The two white-tailed eagles from northern and eastern Finland had high contents but lower than those from the archipelago of Stockholm (Jensen et al., 1969, Nature 224: 247-250). Amounts found in 6 ospreys show considerable variation. In general, avian and mammalian predators belonging to aquatic food chains have had highest concentrations. Only six avian eggs have been analysed. Two addled eggs of eagle owl had 24.2 and 21.3 ppm and 4 osprey eggs 0.4 - 5.6 ppm in fresh sample.

According to unofficial commercial statistics available roughly 250 tons of PCB are used annually in Finland. The main consumers are manufacturers of electric equipment (more than 200 tons) and paint industry (30-40 tons). Additionally, many imported products of chemical industry contain PCB but the amounts are unknown.

In February 12, 1969 some parliament members made a proposal to the government emphasizing the hazards caused by the spread of PCB in the nature. This proposal did not lead to any action. In March 4, 1970, the Minister of Agriculture in his oral answer to the question made by two parliament members stated that the government considers research on PCB necessary. It should be known where and how much PCB is used in Finland and the possibilities of substituting PCB with less toxic chemicals should be explored. This task was given to the National Poisons Board formed by the Ministry of Social Welfare and Health in January 1970. The environmental section of the board is collecting information on the use of PCB in Finland at the present time. Lack of official sales statistics of products containing PCB is a great handicap also in Finland.