

rats fed on diets containing aldrin and dieldrin for a period of two years was of the same order of magnitude as that observed in control animals. Thus, on this basis, aldrin and dieldrin are neither tumorigenic nor carcinogenic substances. Although it is essential to protect the health of the general public, it is equally essential that any decision to restrict the use of aldrin and dieldrin by enforcement agencies must be based on sound and factual data, first establishing that a hazard in reality exists. There are 15 references. -- Author's summary

- 171 Organochlorine Insecticides: Concentrations in Human Blood and Adipose Tissue. J. Robinson and C.G. Hunter. Arch. Environmental Health 13, 558-563 (Nov. 1966).

The mean (geometric) concentrations of HEOD (1, 2, 3, 4, 10, 10-hexachloro-6, 7-epoxy-1, 4, 4a, 5, 6, 7, 8, 8a-octahydro-1, 4, 5, 8-endo, exo-dimethanonaphthalene), the major constituent of technical dieldrin, in the whole blood and depot fat of 44 persons with no known occupational exposure were 0.0014 ppm and 0.22 ppm respectively; the corresponding concentrations of total DDT-type compounds were 0.013 and 4.0 ppm respectively. The ratio of the concentrations in the blood and depot fat were 159 and 306 for HEOD and total DDT-type compounds respectively. In these people no significant relationships were found for either type of compound between the concentrations in the whole blood and depot fat; this is considered to result from the errors present in the observations as a significant correlation is found if the results for males with elevated body burdens of HEOD (arising from occupational or deliberate exposure) are taken into account. No significant change in the HEOD concentration of the bloods of the general human population of England has occurred over the period 1962-1965, and it is concluded that a state of equilibrium had been established between the intake and elimination of this compound. There are 11 references.

-- Authors' summary modified

- 172 Methoxychlor Toxicity. Comparative Studies in the Dog and the Swine. A.S. Tegeris, et al. Arch. Environmental Health 13, 776-787 (Dec. 1966).

Methoxychlor (DMDT) mixed in the feed at 1, 2, and 4 gm/kg body weight per day, was given to three groups of dogs and three groups of swine seven days a week for six months. Most of the dogs in the medium and high dose groups started convulsing within six weeks after initiation of the experiment, and most of them died within three weeks thereafter. All dogs on pesticides lost weight during the experiment. There were no hematological abnormalities noted. Biochemically, alkaline phosphatase and both serum transaminases were significantly elevated in the DMDT dogs in a dose-dependent relationship. At autopsy the mucosa of the small intestine was congested. The swine receiving methoxychlor lost weight during the first month of the experiment, but afterwards the low and mid-dose groups regained their original weight while the high dose group never did. There was a striking degree of mammary gland hypertrophy in the sows of the experimental groups, observed as early as seven weeks after initiation of the experiment. There were no hematological abnormalities. Biochemically the blood urea nitrogen was elevated. At autopsy there were striking changes in the kidneys of all methoxychlor-treated swine compatible with chronic nephritis. The uteri of all the sows from the high dose group and of some sows from the other two pesticide groups were grossly hypertrophic. Microscopically, the uteri from all the pesticide-treated sows showed a thick hyalinized layer separating the endometrium from the myometrium; the mammary gland of the sows from all the DMDT animals were both hypertrophic and hyperplastic in a dose-dependent relationship. In a subsequent experiment it was found out that no toxicity signs developed when methoxychlor suspended in 1% gum tragacanth was administered to dogs by gastric tube for as long as six months. There are 25 references.

-- Authors' summary

- 173 Degradation of Insecticides by the Human and the Rat Liver. Metabolic Fate of Carbaryl, Malathion, and Parathion. F. Matsumura and C.T. Ward. Arch. Environmental Health 13, 257-261 (Aug. 1966).

The results of a survey on the human and rat liver capacity to degrade three different insecticides indicated (1) the general degradation patterns of the livers from these two different species are very similar, (2) aging at room temperature and freeze-storing had some denaturation (or deactivation) effects upon malathion phosphatases and, to a less extent, upon carbaryl oxidative degradation enzymes, (3) malathion carboxyesterases and parathion phosphatases seem to be very stable enzymes against the above treatments, and (4) no detectable evidence to suggest a relationship between the enzyme activities toward these substrate insecticides and the age, sex, the cause of death, postmortem period (aging), and freeze-storing period of each liver sample; except for one case with carbaryl, where the liver samples from male patients showed a higher rate of water-soluble metabolites production as compared with those from female patients. There are 17 references.

-- Authors' summary

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