OP&D, April 5, 1971

Pollutants Among Wide Topic Range At Meeting of ACS

A group of widespread industrial pollutants, often mistaken for DDT, have been found in fatty tissues at vastly higher levels than DDT, and show harmful effects on wildlife and experimental animals. So the American Chemical Society learned at its national meeting in Los Angeles last week.

Recently, several researchers have reported polychlorinated biphenyls (PCB's) in the tissues of various forms of wildlife. These reports suggest gross contamination of the global ecosystem," said Dr. August Curley, a chemist with the Environmental Protection Agency's Division of Pesticide Community Studies in Chamblee, Ga.

Presence Well Established

"The presence of PCB's in environmental samples has been well established," Dr. Curley points out. "Acute and subacute feeding studies to determine toxicities and some residue levels have been done with rats, birds and guinea pigs. Tolerance studies have been done with fish and other forms of marine life.

"Gross pathological changes in the liver and other organs have been shown in guinea pigs, rats, and rabbits at high concentrations. In the chicken, hydropericardial edema and growth depression proportional to dietary levels of the toxicant have been produced.

"PCB's are known to affect estrogen levels in birds, which in turn affect calcium reserves resulting in thin egg shells," according to Dr. Curley.

At the same time, in several other reports, the meeting heard that:

- Selenium, which is considered more toxic than mercury, has been found in zooplankton in the Chicago-Milwaukee area.
- Fish in Lake Erie contain more mercury than federal guidelines allow.
- A rapid increase in oil spills can be expected in the near future.
- Water pollution from marine transportation presents an alarming and fast-growing menace.

Referring to the selenium in zooplankton, Dr. Richard A. Copeland, president of Environmental Research Group, Inc., Ann Arbor, Mich., had this to say:

"It is not yet known whether fish and other members of the food chain show similar selenium distribution. The toxic level of selenium in foodstuffs for humans has not been well established. However, the selenium concentrations in zooplankton . . . do not pose an immediate health hazard."

Dr. K. K. S. Pillay, of the Western New York Nuclear Research Center, Inc., told the meeting that the established guideline is 0.5 part of mercury in a million parts of fish, and the analyses of edible portions of walleyed pike of the same age and size varied from 0.8 part per million in the Western portion of the lake to 0.7 ppm in the central portion, and 0.3 at the Eastern end.

MONS 032435