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Threatens to Contaminate Seas

Industrial Pollutant Causing New Concern

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What do the slaughter of 17,000 chickens, the destruction of 75,000 eggs, and a worldwide building to the use of a synthetic chemical called PCB have in common?

Environmental dangers.

The chicken-egg incident occurred in July and August.

But scientific concern over organic pollution by PCB (polychlorinated biphenyl) is just now coming to a head.

Chiefly, liquid PCB is used in industrial heat transfer systems. It is highly valued for its ability to withstand temperatures ranging as high as 1,000 degrees Fahrenheit. And because of its plasticity, it had been used as an additive for sealants, paints, printing ink and pesticides.

If the world's ecological-political community had had a workable early warning system, what happened to the chickens and eggs in 16 Southeastern states last summer might not have. In 1968, about 300 Japanese contracted a strange skin disease, and several died.

The deaths and illnesses were traced to an infusion of PCB into the human system, via a contaminated rice oil.

The chickens were poisoned by fish meal spoiled by PCB from a faulty pipe in the conduit machinery at the feed factory.

There, on Aug. 30, the Food and Drug Administration revealed that 60,000 eggs containing toxic PCB eluded federal inspectors and reached Washington, D.C., grocery stores.

Meanwhile, alerted to the lethal problem, a special panel of the National Academy of Sciences, headed by Dr. Edward D. Goldberg, chemistry professor at Scripps Institution of Oceanography at La Jolla, Calif., has urged an all-out survey of the extent to which PCB has polluted the seas.

Goldberg told the Los Angeles Times that preliminary studies indicate that oceanic fish and plankton (which fish eat) now contain a higher percentage of PCB. Moreover, PCB molecules are more "persistent" (longer-lived) than DDT, whose effect on fish and birds is relatively well known.

Twenty-five per cent of all the DDT manufactured since its development in the 1940s remains in the world's seas and lakes. But DDT in itself is not harmful to human beings.

How much PCB has escaped into the seas through the atmosphere, rivers, sewers and dumping is not known, because its production is a trade secret. But Goldberg suspects that it is considerable.

"The more the problems are studied," his panel said, "the more unexpected effects are identified. In view of the findings of the past decade, our predictions of the potential hazards of chlorinated hydrocarbons in the marine environment may be vastly underestimated."

Thus the national academy recommended:

—Mounting a "massive national effort" in the United States to force an immediate, drastic cutback in the escape of persistent toxicants into the environment, with the ultimate goal "virtual cessation" as soon as possible.

—Setting up programs to determine the entry rates of pollutants into the earth's waters, and find out where these pollutants finally end up: in sea life, marine plants, etc. "These should be followed by a program of monitoring long-term trends in order to record progress and to document possible disaster."

—Existing and probably certain laws guaranteeing the registering of chemical substances in view of "evidence of environmental deterioration caused by some of (them)."

That is the crux of the matter today.

Despite laboratory tests that show the "deleterious effects" of the PCB-type substances, the sole U.S. manufacturer of PCB substances, Monsanto Chemical Co., has declined to release its production figures, although scientists have long been requesting such data, according to the academy panel's report.

When The Times contacted a Monsanto official in St. Louis, it was learned that the firm has acknowledged the problem to the extent of confining PCB's use to "closed" electrical systems under what was termed "strict controls." No longer will it be employed as an additive for sealants, paints, and other products.

Recently Monsanto allocated $2 million to its environmental control division to tackle the PCB pollution problem. It has already banned "unsuitable" PCB items in Great Britain, where Monsanto also is the sole manufacturer.

But, asks Goldberg, how much has already been produced by Monsanto during the past four decades? Unless such information the Scripps unless this information, they can only guess. From these foggy figures they can then try to determine the amount now contained in the oceans and what the future fallout may be.

There is some optimism, though, that a better notion of PCB's prevalence may soon be gained by a six-member federal task force, including representatives from each broker on the Council on Environmental Quality, the Environmental Protection Agency, the Food and Drug Administration, and the agriculture department.

The Department of Health, Education and Welfare earlier made a quiet announcement of the project, which specifically centers on the PCB issue.

Monsanto has said it will cooperate.

A group of Nobel laureates has joined in the effort with a message of the United Nations Conference on the Human Environment, to be held next spring:

"Some pollutants, (especially substances like DDT and PCBs) not also least are distributed globally via the atmosphere. Their concentrations may reach levels sufficient to damage ecosystems to a community of ecological and physical components taken as a unit) irreversibly on a worldwide scale before the damage is recognized."

The Nobel group, like Goldberg and the academy, want a thorough study of "their origins and ultimate sinks as well as their routes through the food webs and effects on the ecosystem, including man."

Since PCB is also manufactured in Japan, Russia and several European countries, it would appear that the 1972 U.N. conference offers the best possible chance of attacking a difficult global problem globally.

In Science Magazine, official publication of the American Association for the Advancement of Science, University of California research ecologist Robert Risebrough, an authority on PCB, declared this month that contaminants in PCB are "among the most poisonous compounds known."

Half of the shrimp exposed to one part per million of the chemical died during a recent Florida environmental agency test.

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