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A New Chicken and Egg Riddle: PCB Pollution

Scientists Try to Detect Extent of Buildup in Sea but Lack Essential Clues

BY JAMES BARRETT
Times Associate Editor

What do the slaughter of 77,000 chickens, the destruction of 75,000 eggs, and a worldwide buildup in the sea of a mysterious chemical called PCB have in common?

Environmental dangers.

The chicken-egg incident occurred in July and August.

But scientific concern over oceanic 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 an additive for sealants, paints, printing ink and pesticides.

Earlier Incident in Japan

If the world's ecological-political community had had a workable early warning system, what happened to the chickens and eggs in 10 Southeastern states this 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 coolant machinery at the feed factory.

Then, on Aug. 18, the Food and Drug Administration revealed that 50,000 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 Science, headed by Dr. Edward D. Goldberg, chemistry professor at Scripps Institution of Oceanography at La Jolla, has urged an all-out survey of the extent to which PCB has polluted the seas.

Percentage of PCB Rises

Goldberg told The 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

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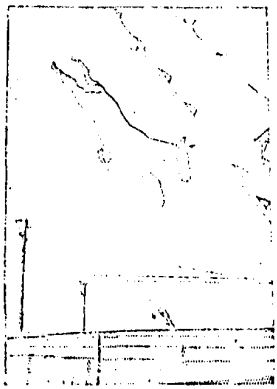

HEADS UP!—One of two diving mules performing at the Utah Fair in Salt Lake City heads for water far below. The Humane Society, which says it has had many complaints, is unhappy.

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Agency Moves to Make States Spend U.S. School Aid on Poor

Office of Education Asks California and Others to Return $5.6 Million Not Used in Poverty Areas as Law Intended

BY PETER MILIUS
Publisher in the Times from the Washington Post

WASHINGTON—The U.S. Office of Education is slowly starting to enforce a little-known set of regulations that could require school boards throughout the nation to spend more money, more systematically, on the poor.

The money is the $1.5 billion distributed yearly to more than 10,000 of the nation's 18,000 school districts under Title I of the 1965 Elementary and Secondary Education Act.

But the federal government is now asking California, five other states and the District of Columbia to return about $5.6 million in misspent Title I funds.

Title I alone has accounted for about a third of all the money the Office of Education has handed out in each of the last several years. It is intended to provide "compensatory education" or extra services to poor children, aimed at helping them catch up.

The regulations are designed to make sure that these services are indeed real extras, that school boards end up spending more money on poor children than other pupils.

Civil rights groups complain that the regulations have not been enforced and that school boards everywhere are violating them. Many districts, they say, are still spending less—rather than more—on poor children.

It is sometimes argued that Title I is not paying off, that the federal investment has not produced measurable improvement in poor children's test scores. Its civil rights defenders have replied that Title I has not been put to a true test because the money has been misspent.

Two years ago, after two civil rights groups—the National Assn. for the Advancement of Colored People's Legal Defense Fund and the Washington Research Project—published a long report on the subject, the Office of Education proceeded to crack down.

Two weeks ago, Commissioner of Education Sidney P. Marland Jr. announced some of the first results of that crackdown. On the strength of some audits, the Office of Education asked the District of Columbia and six states — Arizona, California, Pennsylvania, Michigan, Washington and Wisconsin—to return to the federal treasury about $5.6 million in misspent Title I funds.

Marland said that similar letters soon will be sent to other states.

Title I enforcement is a sensitive subject at the education office. Some of the audits that prompted the letters that started going out this month were in the office for more than a year while officials worried about how to handle them.

Part of the problem is that the issue is new and little understood.

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INTERVIEWS AT ATTICA

Guards Blame Court Coddling of Muslims, Panthers for Riot

BY JIM STINGLEY
Times Staff Writer

ATTICA, N.Y.—Attica State Correctional Facility officers have been tightlipped about what caused the Sept. 9 riot. Their silence, not understood by some, stems from many factors.

One is that they have been ordered, in the face of a legislative investigation, to remain quite anonymous. No interviews with prisoners have been permitted.

With bitter intensity, the officers explained that their side of the Attica story should already have been told.

The officers maintained that serious trouble has been heading for Attica for eight years—that they

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New Chicken-and-Egg Riddle: PCB Pollution

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hazards of chlorinated hydrocarbons in the marine environment may be vastly underestimated.

Thus the national academy recommended:

—Mounting a "massive national effort" 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 deterioration."

—Examining and probably revising laws governing the reregistration of chemical substances in view of "evidence of environmental deterioration caused by some of them."

That is the crux of the matter today.

Will Not Give Figures

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 continuing PCB's use in closed electrical systems under what was termed "strict controls." No longer will it be employed as an additive for perfumes, paints and other products.

Recently Monsanto allocated $5 million to its environmental control division to tackle the PCB pollution problem. It has already launched "concentrated" PCB items in Great Britain, where Monsanto also is the sole manufacturer. "Two years ago," said one European company official, "the unsold problem was a pain in the backsliding. Gradually, we stopped laughing."

Can Only Guess

But, asks Goldberg, how much has already been produced by Monsanto during the past four decades? Unless such institutions like Scripps obtain this information, they can only guess. From these guesstimates 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 such bodies as 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 this month made a quiet announcement of the project, which specifically centers on the PCB issue.

Monsanto has said it will cooperate.

But Goldberg, while allowing that this is a move in the right direction, calls it "only a microstep." Some preapproved, nongovernmental scientific group should have the information, so that extensive and impartial tests can go forward, he said.

While his academy panel recognized the erroneous reason for trade secrecy, and a firm's proprietary interest in an exclusive product, it added:

"We also feel that there are times when it is not in the public interest for government to maintain as privileged data that are necessary for research into the state of our environment and for an assessment of its condition."

Single Laboratory

The academy therefore asked that the law be amended so that nonprofit scientists can more easily overcome this "obstacle to effective environmental management." Especially, said the panel, as regards polychlorinated hydrocarbons (like PCB).

"By utilizing a single laboratory to discuss the program," Goldberg and his colleagues noted, "uniformities in standardization and in sample preparation and handling can be minimized."

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

"Some pollutants, especially substances like DDT and PCB's, and also lead are distributed globally in the atmosphere. Their concentrations may reach levels sufficient to damage ecosystems (a community of ecological and physical components taken as a unit) irreversibly on a worldwide scale before the damage is recognized."

Should Be Curtailed

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

Their entry into the area should be "curtailed to every practical extent, even if this requires restrictions on production and use," the Nobel group said.

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.

Goldberg said that Japan turns out approximately 10,000 tons of PCB annually, a figure nearly one-tenth of its gross national product, he noted, that would mean that Monsanto could be making 30,000 tons a year. That, however, is only an educated guess, Goldberg admits.

The company neither confirms nor denies that figure.

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

Half of Shrimp Died

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

The same article reports that Monsanto technicians found "no adverse effects" when rats were given doses of PCB as high as 100 ppm.

Risebrough said that in "our throwaway society" PCBs will ultimately become wastes that drift into the environment — and eventually the food chain itself.

According to Science, the FDA has set an "interim guideline" of 5 ppm of PCB "as safe for human consumption of poultry."

But scientific consultation rate the federal guideline as "unfounded and arbitrary."

Says Risebrough: "Five parts per million is just a number. I'm sure FDA pulled it out of the air."

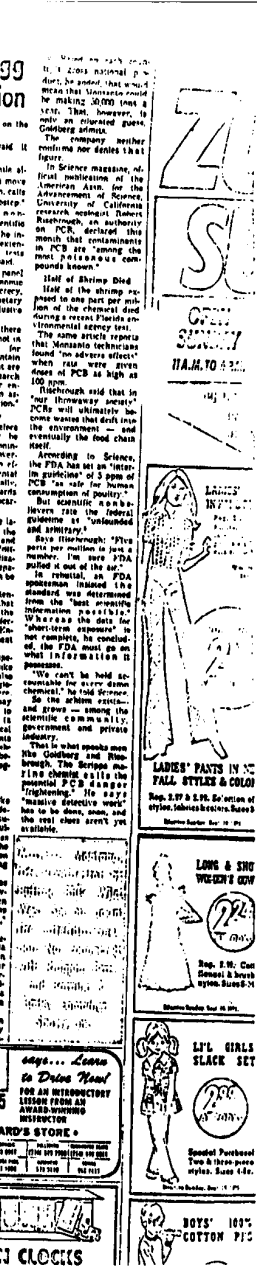
In rebuttal, an FDA spokesman insisted the standard was determined from the "best scientific information available."

Whereas the data for "short-term exposure" is not complete, he concluded, the FDA must go on what information it possesses.

"We can't be held accountable for what the chemical," he told Science.

So the schism exists — and grows — among the scientific community, government and private industry.

That is what speaks most like Goldberg and Risebrough. The Scripps marine chemist calls the potential PCB danger "frightening." He says "massive detective work" has to be done, soon, and the real clues aren't yet available.



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