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New hazard dirties Miami

By James Babcock
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A hazardous class of chemical compounds — one of which shut down a Preble County dairy farm last fall — has been found polluting the waters of the Great Miami River.

The compounds, known as polychlorinated biphenyls, or PCBs, were detected in the river in March, 1970, and traced by February of this year to the National Cash Register Co., the Kimberly-Clark Moraine Mill, Dayton's two Frigidaire plants and the Dayton sewage treatment plant, it was learned yesterday.

Action has been taken to shut off the pollution sources, according to federal, state and local agencies involved.

But from what is known about the persistent qualities of PCBs, it is probable that traces of the compounds will remain in the river and its aquatic life for some time to come.

Whether that poses a health hazard is something no one has determined — although a federal agent said yesterday he does not "think there is any health problem from this."

THE AGENT, Bernard Sacks, sanitary engineer for the U.S. Environmental Protection Agency's technical programs office in Cincinnati, based his statement on the fact the PCB sources are being cut off and on the assumption: "We have probably caught this fairly early . . . I don't think it has been building up over the years."

However, Sacks also said there has as yet been no follow-up water sampling data to support his belief, that sampling of river bottom sediment still needs to be done, that no significant testing for PCB content has been done on the river's fish life, and that no agencies which decide what is safe for human consumption have been brought into the picture.

He said the water and river bottom sampling will be done. But the other two steps are not considered necessary.

HIS REFERENCE to the probability of the PCBs "building up" hit on why there is concern over the chemical compounds in the river.

PCBs are chlorinated aromatic hydrocarbons, making them members of the same chemical family to which DDT and other "hard pesticides" belong.

Like DDT, they do not decompose in water nor readily oxidize in the atmosphere. And like DDT, they accumulate in soil, flesh, fatty tissue and the organs of animals, fish and birds — and they are toxic, or poisonous, especially after they have accumulated in the tissues of living things.

Because of their durability and various other chemical properties they have been found over the past 40 years to be ideal for industrial uses that include:

Coolant-insulation fluids in transformers; ballasts for fluorescent fixtures; plasticizers in rubber and wire coatings; plasticizers in paints and sealant coatings; plasticizers of plastics; giving greater heat resistance to specialized lubricants, gasket sealers and machine cutting oils and in the manufacture of carbonless reproducing paper.

A **PLASTICIZER** is a chemical additive which gives plastic products their hard, durable, smooth and shiney surfaces.

PCB presence in this country's ecosystem was detected by a California scientist in 1967, and they have since been found all over the world about anywhere DDT, dieldrin, DDE, aldrin, heptachlor and other chlorinated pesticide residues are found.

They accumulate rapidly in tissue after tissue is exposed to a short time to small concentration, as shown in this quotation from an article in the October, 1970 issue of Environmental Science & Technology magazine:

"When shrimp were exposed to 10 parts per billion . . . for 4 hours, they accumulated 1,300 parts per billion of PCBs, which represents 130-fold concentration in a very short time."

The compounds can enter the ecosystem in many ways, as the Preble County dairy farm case demonstrated.

THE FARM, owned by Loren A. Dillman, of College Corner, was ordered to stop shipping milk because a PCB residue was detected in a batch of milk and in the tissues of more than half the dairy herd.

Investigation revealed that the compound had originated from silage contaminated by it when a PCB-plasticized silo sealing paint chemically "broke down."

The PCB pollution in the Miami River has had no known effects on humans, but there is evidence the river's fish have been affected.

A report from the Analytical Quality Control Laboratory of the Environmental Protection Agency says "analyses of a number of fish . . . showed PCB concentrations of more than 100 ppm (parts per million)."

Dwight Ballinger, laboratory director, said yesterday he could not comment further because "some of this is probably going to be subject to a court action."

A memorandum sent out by Sacks in January notes that the U.S. Food and Drug Administration has set a PCB tolerance limit on fish flesh at 5 parts per

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million.

RESPONSIBILITY for reducing PCB discharges has been placed with the Industrial Wastes Section of the Ohio Health Dept.

Edward Armstrong, an engineer in the industrial wastes section who has been working with NCR and Frigidaire, said [illegible] firms have all [illegible] their PCB discharges.

He said [illegible]daire engineers [illegible] source of the [illegible] was a coolant. Frigidaire promised to stop purchasing [illegible] May 1 and to direct its purchasing department to tell new suppliers they must certify their products do not contain PCBs, he added.

A spokesman for Frigidaire said [illegible] has been kept.

ARMSTRONG SAID NCR's [illegible] in the manufacture of the company's carbonless paper. The company eliminated 30 percent of its discharges in March by switching to a substitute, and has promised the remaining 2 percent will be eliminated sometime this month, he said.

Shelton Darity, a chemist for the industrial wastes section who has been working with Kimberly-Clark, said the company has "gone through all the chemicals they have, even on property they don't use in their process, and they can't find any they know of that has PCBs in it."

He said he believes what the company says and is checking the possibility that what appeared to be a PCB compound was actually a polychlorinated phenol (PCP), a biocide used to keep algae and slime from growing in paper making ingredients.

He said PCPs would be similar to PCBs and could give a false reading. PCPs are still considered acceptable, he said.

A Kimberly-Clark spokesman said Darity's information is factual.

THOMAS SAYGERS, pollution control engineer for the [illegible] of Dayton, said the PCB [illegible]charges from Dayton's sewage treatment plant are from industries in the city that dump their wastes into the city sewage system.

He said he doesn't know which industries are using PCBs and hopes he doesn't have to resort to an outfall sampling program that would tell him.

Saygers added that he has never received a clearcut order to reduce the PCB discharges from the city sewage treatment plant — "and I kind of feel they haven't got their minds straight on what they want to do," he said.

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