PBB: A chemical nightmare

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News Staff Writers

"It's Cattlegate," shout angry farmers as they accuse the Michigan Agriculture and Public Health departments of a Watergate-type cover-up of the massive PBB contamination.

The federal Food and Drug Administration conceded in Washington testimony last week that the accidental mixture of the chemical flame retardant into cattle feed three years ago is the "most severe agricultural contamination" in the history of the United States.

State experts don't dispute this.

But every time one of the state agencies suggests the poisonous chemical may not be responsible for every unhealthy cow or sick farmer in western Michigan — the site of most of the contamination — it is greeted with outspoken public disbelief.

The Health Department did two short-term studies which failed to show any clear pattern of human illness caused by PBB.

Although future research may undercut the studies, independent scientists who have reviewed the Health Department work say there is no basis for rejecting the conclusion.

Yet a highly critical Legislature is subpenaing the confidential medical test records of the farm family members who volunteered for the study.

Gov. Milliken has appointed a panel of independent scientists to evaluate the potential human health dangers of PBB — a panel so independent that it excluded the governor's staff from its information-gathering hearings and deliberations.

Yet the distrust is so widespread that the Legislature is planning to name its own scientific panel once the governor's group reports, even though there has not been the slightest indication of what Milliken's panel will conclude.

Fueling the controversy is science's continuing ignorance about most aspects of PBB even though the chemical was spotted in the blood and fat tissue of farm families more than two years ago.

The Michigan incident is the first and only known PBB poisoning in the world, and neither federal nor state scientists know much more than they did in 1974.

It may prove to be a human health "catastrophe," as one federal researcher fears based on his testing of a nearly identical chemical in monkeys.

Or its worst health effects may be psychological, generated by the fear and anxiety felt by the people who know the chemical is in their bodies. That is suggested by short-term studies by the Michigan Department of Public Health.

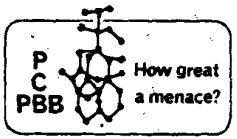
The Health Department estimates that "10,000 to 12,000 people may have been directly exposed to PBB from contaminated farms," but millions of Michigan residents may have been exposed to traces through the distribution of milk containing the chemical.

Three things are clear:

- PBB is not an obvious cause of serious short-term human physical illness even among those who consumed the most contaminated farm products.
- Its long-range human health consequences, at exposure levels experienced by thousands of Michigan residents, are simply not known yet.
- The issue won't be settled before the conclusion of a three-year federal-state study of 4,000 farm residents and chemical company workers . . . if then.

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Poisonous chemical pollutants known as PCB's and PBB's first contaminated our fish and beef, now us. But their effects are subtle and uncertain. This is the first of a four-part series on how science stubbed its toe and now is trying feverishly to find out whether the ominous risks are real.



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PBB — boon to man now a nightmare

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The study will not include city dwellers who may have had trace exposure through milk. Even the more pessimistic researchers believe trace exposure is inconsequential.

The study, announced nearly a year ago, has been snarled in bureaucratic red tape and won't even begin for another two months or so.

The study is based on the assumption that one can tell how much PBB has accumulated in a person's fat tissue by measuring the amount floating in the blood.

If the early part of the study disproves that assumption, according to various researchers, then the value of the project may be undermined.

Moreover, it would cast doubt on the short-term studies by the Health Department. Most of the work was done with blood rather than fat samples.

The department used the studies to counter assertions on the part of private doctors that their patients were suffering arthritis, rashes, fatigue, headaches and altered liver function due to PBB.

Dr. David Salvati, a Big Rapids osteopath, said liver testing of 50 of his patients has convinced him that PBB has caused serious medical problems, such as extreme fatigue and swollen joints.

But Dr. John Isbister, medical officer of the Michigan Department of Public Health, said Salvati's data fails to show anything out of the ordinary.

"All of his (Salvati's) patients were exposed on quarantined farms, but only a few of them had PBB determinations," Dr. Isbester noted. "The Health Department did a similar liver test on 215 exposed farmers, all of whom had PBB determinations, and we did not find anything particularly out of line."

The uncertainty surrounding PBB exists at the federal level as well.

"Unfortunately, our information about PBB is pretty short," conceded Dr. Clark Heath, director of the cancer and birth defects division of the Center for Disease Control (CDC) in Atlanta, Ga., one of four federal agencies co-sponsoring the long-range study in Michigan.

"We've had to rely on our experience with PCB's, and whether or not the two chemicals have the same effects is a nasty question."

PBB is the short name for a mixture of chemicals called polybrominated biphenyls which are manufactured by Michigan Chemical Co. as a flame retardant in such products as television sets.

PCB stands for polychlorinated biphenyl, a mixture of ingredients produced by Monsanto Chemical Co. and used in electrical transformers and scores of other products.

The PCB's have contaminated all the lake trout and Coho salmon in Lake Michigan, are threatening the $175-million Great Lakes fish restocking program, have been spotted in Michigan residents who eat such fish and caused one major human poisoning incident when PCB contaminated rice oil in Japan.

MONDAY: PBB Safety Standards based on PCB uncertainties.



—AP Wirephoto

HE IDENTIFIED PBB — At work in his laboratory at the research station in Beltsville, Md., is Dr. George Fries, a U.S. Agriculture Department researcher who first identified PBB in livestock feed sold by Michigan Farm Bureau Services.

PBB panel has data

Gov. Milliken's Scientific Advisory Panel on PBB concluded its second meeting in Chicago Saturday. The panel met with medical and public health professors and a representative of the research and development division of the Michigan Chemical Corp., producers of PBB.

"We have completed the major portion of our information-gathering," said Dr. Isadore A. Bernstein, chairman of the PBB advisory panel. "We will continue the process of synthesizing the material for a report to the governor within the next several weeks."

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