



Key Points: Michigan's 1973 PBB Contamination

Background

In 1973, the Michigan Chemical Corporation (owned by Velsicol) in St. Louis, Michigan, caused the largest food contamination event in U.S. history when it shipped flame retardants (polybrominated biphenyl, or PBB) instead of a nutritional supplement to be mixed into livestock feed.

Farmers were blamed and confused, and sought information and answers from the government.

“the Farm Bureau kept coming back saying, ‘Well it’s the way you’re treating your cattle. It’s your animal husbandry.’”

A chemist-turned-farmer suspected contaminated feed (after State agencies did not know to test for PBB) and, nine months after the mix-up, confirmed the presence of PBB in the livestock feed by sending feed samples to laboratories across the country.

Effects on livestock:

- Cows developed watery eyes, patchy skin, and poor appetites. Over time, more extreme effects were visible: joint issues, curved hooves, and spontaneous abortions.

Effects on food:

- 30,000 cattle, 4500 swine, 1500 sheep, and 1.5 million chickens, as well as 800 tons of animal feed, 18,000 pounds of cheese, 2500 pounds of butter, 5 million eggs, and 34,000 pounds of dried milk products.

Michigan Department of Agriculture (MDA) began testing and setting limits for quarantine levels, farmers faced decisions about whether to sell the food or not.

Researchers estimated that eight million Michigan residents consumed PBB-contaminated farm products.

“The cattle were losing their calves. What calves were born were deformed, they had frozen joints—they were very difficult to maneuver inside the cow and to even deliver them—they were so deformed. I knew we had something that was completely different. (Veterinarian)”



No one talks about the collateral damage of the event. We always talk about how many thousand head of cattle and sheep and eggs and so on and so forth, but the collateral damage is the farm families themselves. The parents that got in arguments and got divorced, the kids fighting with their dads that left the farm. A lot of anxiety, depression, worrying—unnecessary worrying—these are all the collateral damages that nobody speaks about, and they're just as real as the monetary things.

Decades later, researchers confirmed heightened health risks associated with PBB exposure, including:

- Thyroid problems
- Lower Apgar scores (how well the baby tolerated birth)
- earlier menstruation
- increased risk of miscarriages
- Breast cancer in women
- Urinary and genital problems among men and boys

"I asked them 'well what does all this mean?' And he says 'Well we don't really know what it means. You'll have to come back 40 years later and we probably will have some answers for you.' Well, here it is 40 years later and yeah, it does do some terrible things for yourself."

The Michigan PBB Oral History Project

This is a study that documented community residents' descriptions of the PBB contamination that occurred in Michigan in 1973. The goal was to examine how knowledge developed to inform decisions and create action around this large-scale contamination.

Challenges encountered in the development of this knowledge including four central themes:

- Contested knowledge
- Community skills
- Inaction
- Uncertainty

This project included experiences from community members, researchers, lawyers, and others who actively searched for and gathered essential information about the contamination and its impacts.

- This included events before and after the contamination.
- Was done as a "Grounded theory qualitative analysis" of 31 oral histories.

Conclusion:

This analysis of narratives from Michigan residents who encountered, and survived, the large-scale PBB contamination in the 1970s captures the lived experience of those residents. It also informs efforts to understand the role of environmental health science in shaping actions to promote health.

The community's power to protect their health from this environmental threat was affected by a lack of scientific knowledge, but more importantly by outside efforts to both:

- Devalue and undermine the knowledge drawn from their own observations and insights
- Systems for action that require proof of harm before preventative action is taken.

Our findings suggest that promoting environmental health relies on the relationships between:

- Community skills
- Leadership
- Participation
- Sense of community
- Community power

=Efforts to promote environmental health knowledge must clearly examine and challenge the power dynamics that focus only on professional scientific knowledge.



Please see http://mleead.umich.edu/Coec_Fact_Sheets.php for the citations included in this factsheet.
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