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Guest commentary

After 40 years, effect of Michigan's PBB crisis still not fully known

30 January 2015

by **Ken Winter**

One of Michigan's worst agricultural disasters continues to make headlines some 40 years after it decimated 500 Michigan dairy and cattle farms, one Michigan city, and blemished an otherwise nearly spotless career of former Gov. William G. Milliken, Michigan's longest serving governor. And even today, no one is sure what the effect has been on millions of Michiganders who consumed poison-laced milk, beef and poultry after the accidental statewide distribution of the fire retardant polybrominated biphenyl, or PBB, during 1973.

The disaster started in the early 1970s, when a man-made chemical fire retardant, Firemaster BP-6, produced by the Michigan Chemical Company of St. Louis, Mich. was accidentally mis-bagged and distributed by the Michigan Farm Bureau as livestock feed. The product was then unknowingly distributed to farms across the state and Midwest.

Some 1.5 million chickens, 30,000 cattle, 5,900 pigs and 1,470 sheep consumed the feed and became contaminated with PBBs. More than 500 farms had to be quarantined across Michigan. Additionally, 1.5 million chickens were destroyed, along with over 800 tons of animal feed, 18,000 pounds of cheese, 2,500 pounds of butter, 5 million eggs, and 34,000 pounds of dried milk products. Over 9 million



Ken Winter is former editor and publisher of the Petoskey News-Review, which also owned the Charlevoix Courier when it covered the PBB crisis and received the National Newspaper Association's National Journalism Award for Investigative Reporting.

Michiganders consumed potentially tainted meat and milk for a year after the mistake was discovered.

The disaster pitted the popular governor against one of the state's strongest lobbies, the Michigan Farm Bureau, and eventually led to the downfall of the directors of the state's Department of Agriculture and Department of Health.

University researchers now suggest lingering health effects remain in countless Michiganders, who may still carry high levels of PBB in their bodies. **The Detroit Free Press reports** the study will appear this month in the environmental sciences journal, *Chemosphere*.

"To see the lab reports are both chilling and confirming," Mason resident Pat Bayer recently told the Free Press. She is one of those whose PBB levels are about 10 times the national average.

One study suggests PBB may be linked to a newborn's health (showing lower Apgar scores – the first measure of a baby's health) and possible disruption of human endocrine systems, as well as liver, kidneys and thyroid gland. Research stills falls short of proving the link. However, these studies are ongoing and adverse reproductive-system effects continue to be found in the grandchildren of those who consumed tainted farm products, according to recent reports.

Cattle quickly withered to mere skeletons, died and were buried in specially lined landfills throughout Michigan; some were shipped to Nevada for burial.

A 40-acre Gratiot County landfill had received 269,000 pounds of wastes containing 60 to 70 percent PBBs between 1971 and 1973. Recently drilled test wells show traces of PBBs in the aquifer in all directions. Since 1998, the EPA and state Department of Environmental Quality have been working on the cleanup of the Pine River in St. Louis, which has required over \$100 million in funding, including installation of sheet piling, dewatering and dredging operations. Restoration work continues as a fishing ban also remains in place.

At first, state agriculture and health officials denied reports of any mishap. Some farmers had agents of the Department of Agriculture come out to their farms to investigate their suddenly failing herds. The agents would brush the farmers off, telling them it was because of "bad husbandry." The Michigan Milk Messenger, a trade publication, blasted the weekly Charlevoix Courier for its extensive 1973-74 coverage of a neighboring dairy farmer's dying herd. Meanwhile, other farmers were beginning to report mysterious deformities of their cattle, who were having grotesquely deformed and stillborn calves.

Charlevoix and Antrim County dairy farmers joined together, protesting the newspaper's coverage and telling the public their milk was safe to drink. They boycotted the newspaper, canceled subscriptions and encouraged retailers and businesses to quit advertising because the stories hurt the local economy and their dairy and meat business.

The Courier eventually uncovered a secret study being conducted on afflicted PBB farm families by the Michigan Departments of Health and Agriculture. State officials, who eventually confirmed the study, told the Courier they didn't want to influence the study by making it public.

The news made the front page of the Charlevoix Courier and was reprinted in the Grand Rapids Press and other Michigan Booth Newspapers, catching Milliken off-guard and forcing him to hold a hastily called press conference to deal with the issue. **As one blogger recently wrote**, “The state of Michigan realized there was a problem and they quickly realized the monstrosity of it all. They didn't know how to properly handle the situation as nothing like this had happened before in the United States.”

Politically powerful Farm Bureau president Elton Smith, a Caledonia dairy farmer, called upon the media to report the other side of the farmer's story on PBB. He also took on Milliken over the acceptable tolerance level of PBB in milk.

“Many of Michigan Farm Bureau's usual allies have seen fit to oppose our positions,” he opined in the bureau's newspaper, Michigan Farmer, in April 1977.

“The governor supports lower PBB tolerance levels for what we believe are political reasons,” Smith wrote. “The news media, because of its very nature, dwells on the emotional and sensational rather than the scientific and logical. The Legislature also fails to utilize available data to make its decisions, bending instead to the pressure of emotion and politics.”

Smith said he “was disappointed Governor Milliken, who has a long and admirable record of support for Michigan agriculture, disregarded the scientific testimony presented at the PBB tolerance level hearing...”

He was referring to testimony given by the federal Food and Drug Administration's Dr. Albert Kolbye to the House Committee on Public Health, that evidence showed the present Michigan food supply did not present a risk to public health. The farm leader claimed that Milliken, instead of using the testimony to restore consumer confidence in Michigan farm products, urged U.S. Sen. Donald Riegle to persuade the FDA to lower tolerance levels.

Research continues at Emory University in Atlanta with the Michigan Department of Community Health from funding that comes partially from the National Institute of Environmental Health Sciences.

The Detroit Free Press reports “researchers hope that their latest findings – high levels of PBB remain in Michiganders' bodies and the link between PBB levels and newborns' Apgar scores – will trigger to continue the work.”

Mason's Pat Bayer says they can't stop looking at the PBB issue as it's too important.

Bridge welcomes guest columns from a diverse range of people on issues relating to Michigan and its future. The views and assertions of these writers do not necessarily reflect those of Bridge or The Center for Michigan.

9 comments from Bridge readers.

Leon L. Hulett, PE

January 30, 2015 at 9:21 pm

Ken,

I didn't see where you gave a citation for the article. I looked it up: Original Research Article Chemosphere, Volume 118, January 2015, Pages 178–186 Metrecia L. Terrell, Kathleen P. Hartnett, Hyeyeun Lim, Julie Wirth, Michele Marcus

You said the special landfills were lined. I don't think that is true. I looked up articles on this in the early nineties and found one where it showed a photograph of the cattle being placed in the landfill and it showed the bare sand – no liner. I would say your data that aquifers near one site showed elevated levels would indicate no liner, or at least an ineffective one. The article I read said the aquifers associated with these sites would be monitored. So I think there is a history somewhere of what the readings have been around each of these sites in Michigan. You said, two sites I believe in Michigan. I think there are many more than that.

The test data from the study, as far as I could tell, began for cases that had more than 1 ppb in their bodies and up to 2.5 ppb and those levels showed measurable problems. As I recall the cattle were destroyed if they tested out higher than 1 ppm. That is 1000 time higher. One farmer had levels of 1 ppm. I'm guessing that his problems were much more serious and acute than the study people. But that tells me that there are many people in Michigan that have, or had, higher levels than 10 ppb that Ms Mason, one of the authors, had. I think it would wise to have a study of what the levels are, and for how many people, in Michigan that lived at that time. Without seeing the study yet, I assume the data you discussed are mostly from a very select group of people.

Your article did not discuss how the cause of such a huge pervasive problem back then came to be identified. No government agency solved it. An individual Engineer solved it. I don't recall his name, but what stands out as important to me is that it was not solved by the DNR or government or environmental people, or by a university... it was solved by an individual.

Leon L. Hulett, PE

January 31, 2015 at 11:00 am

I found this data, from the long term study participants, for how long it takes the PBB to leave the human body: Daniel Rosen from the Centers for Disease Control and Prevention (CDC) published a 1995 article citing 10.8 years as the calculated half-life of PBBs within the human body among those enrolled in the Long-Term PBB Study.

Laurel Raisanen

February 1, 2015 at 9:27 am

I remember very well that time in my life. I was pregnant with my first child the summer of 1975. I heard on the radio show – Dick Purtain – not to eat any beef liver, that traces of some chemicals were found in it. At the time doctors were encouraging liver to be part of a pregnant woman's diet. I immediately stopped buying liver and tried to find out what was going on by paying attention to the news. Nothing. NOTHING! Did I imagine what I heard? In 1976 the public was finally informed of the PBB disaster. Of course it was in breast milk. It was everywhere. It was covered up by the government. The public could have been spared almost a full year of possible PBB contamination. The point of my comment is trust. Government officials will lie to protect themselves and their special interests. So that is by biggest loss – trusting government to do the right thing. (I'm glad to finally got this off my chest. Thanks.)

Erwin Haas

February 1, 2015 at 10:23 am

From Wikipedia on PBBs;

“A study was undertaken on 4,545 people to determine the effects of PBBs on human beings. These include three exposure groups – all people who lived on the quarantined farms, people who received food from these farms and workers (and their families) engaged in PBB manufacture – as well as 725 people with low-level PBB exposure.....

No associations could be established between serum PBB levels and symptom prevalence rates...

no statistically significant differences in lymphocyte function were noted.....

However, these studies are ongoing and adverse reproductive-system effects continue to be found in the grandchildren of those who consumed tainted farm products.....

The grandchildren! Have the poor, self deluded opportunists clinging onto the wreckage of a now ancient incident described some sort of hereditary toxicity? Maybe like bad blood being passed down through the generations?

From Wikipedia, PBBs are rapidly inactivated by UV light and would have long since disappeared if the contaminated animal carcasses and feed had been left in the sunshine. Our professional engineer below has found a report of the half life during which PBBs will deteriorate; after 4 half lives, levels today will be 1/16th of peak—I know enough physical chemistry to do that calculation, and that those should be well below controls in the 1970s.

I empathize with this one journalist who has only one issue that he can flog to make a living, but why would Bridgemi perpetrate the exaggerations and superstitions, the “possible” and vaguely menacing tone of an accident that had dramatic impact on farm animals decades ago? Anecdotes and testimonials do not create diseases except among credulous environmentalists. Plenty of study has been done on PBBs and the spot contaminant incident, all reassuring.

Journalistically, it's a good story, even if it's bullfeathers.

Gene

February 1, 2015 at 11:54 am

There is no mention of the United States Department of Agriculture's (USDA) involvement in this incident. It is my understanding that the USDA provides leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management. It is my recollection that this incident affected more than Michiganders. It is evident that Michigan's DNR saw no need to involve the Federal Government in a case that involved more than Michigan. Is there any information on the distribution of PBBs in today's food products? Are there still traces in food products. Is there any connection between PBBs and Autism? How is that for starting a panic.

Eric Lind

February 2, 2015 at 8:58 pm

Read 'The Poisoning of Michigan' by Joyce Egginton. It tells the whole story and how the Michigan Farm Bureau and the Dept of Agriculture covered it up. Sad story in the history of this state.

John

February 3, 2015 at 7:36 am

“And we know from animal studies that, in fact, some of these endocrine disrupting chemicals can affect multiple generations, up to four and five generations down the line.” — Michele Marcus, lead researcher, professor of epidemiology, environmental health and pediatrics at Emory University Schools of Public Health and Medicine.

<http://michiganradio.org/post/40-years-after-toxic-mix-researchers-continue-study-michiganders-poisoned-pbb>

Jane Keon

February 3, 2015 at 12:01 pm

Thank you for publishing this article. As a founding member of the Pine River Superfund Citizen Task Force, I am always glad to see publicity on the PBB Disaster and the ongoing cleanup efforts in our community of St. Louis, Michigan. We are also a partner with Emory University in the most recent health study. Some of the people in our community who were tested last year for PBB in their bloodstreams registered 10s to 100s time the average level, and some measured in the 1000s above average. Emory will also soon be sending the results for DDT, DDE, HBB and other chemicals that we were tested for. Meanwhile, EPA is digging up yards in the 9-block area nearest the buried chemical plant, replacing contaminated soil with clean. The robins are still dying, though. Our recent studies show that they are dying of total DDT poisoning, with some of them showing the highest DDT levels ever seen in wild birds. Our 17 years as a Task Force is likely going to continue for many more.

Barry

February 3, 2015 at 1:49 pm

And unfortunately we may be continuing a similar problem. This is from Wikipedia on Fire retardants: "Forest fire retardants that are used are generally considered non-toxic,[20] but even less-toxic compounds carry some risk when organisms are exposed to large amounts.[21] Fire retardants used in firefighting can be toxic to fish and wildlife as well as firefighters[22] by releasing dioxins and furans when halogenated fire retardants are burned during fires,[23] and drops within 300 feet of bodies of water are generally prohibited unless lives or property are directly threatened.[24] The US Forest Service is the governing agency that conducts research and monitors the effect of fire retardants on wildland systems in the US.[25][26]"
The U.S. Forest Service is part of the U.S. Dept. of Agriculture

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