

The PBB Story: Michigan Farmer's Investigative Reporting Scoops the Nation

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I don't know what image you have of Michigan, but it has undoubtedly been affected by the polybrominated biphenyl (PBB) contamination.

Those words conger up images: dead cows in the ditches, people crabbing around as if they had cerebral palsy, dead trees, bomb craters in the roads.

Believe me, you could drive a lot of miles along a lot of country roads and never see a sign of anything that might indicate PBB ever was a problem in Michigan. Your best chance of finding PBB effects would be to pick up a daily newspaper having PBB headlines almost daily—four years after the fact. Or, if you visited enough restaurants and supermarkets, you might still find one with a sign saying, in polite terms, "Michigan meat isn't sold here."

I think that PBB has had a greater impact on the hearts and minds of Michiganders than it has had on their environment, their collective health, or their pocketbooks. That is meant to accentuate the former, not to diminish the latter. This catastrophe may cost farmers, taxpayers, and the companies responsible for the contamination as much as \$200 million by the time it's over. But it cost

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more than that in agony and frustration. And probably more than that in newsprint.

Why is that so? It is because government, at no level, has yet learned how to deal with chemical contaminations and with people's reactions to them. People's reactions may well be more important than contaminations themselves.

Take the current stage of the PBB controversy as an illustration. Last October (1977), Michigan's legislature made an effort to end the PBB problem once and for all. By law, it lowered the permitted level of PBB in meat and milk to 20 parts per billion. That is about the lowest level of detectability.

Every dairy cow born before Jan. 1, 1976, when culled for slaughter, must be biopsied by a veterinarian. The fat tissue removed from the cow must be tested for the presence and level of PBB. Bulk milk samples are similarly screened and tested.

The idea, of course, is to restore the consumers lost confidence in Michigan food products. And Michigan consumers did lose confidence. So did Canada, which virtually banned our beef.

Since last October (1977), some 80,000 head of cull cows have been tested, at great cost. The farmer gets \$30 for his trouble. The vet gets \$30 for taking the tissue sample. The testing lab gets \$17.60. The samples are flown to St. Louis, MO., daily by special courier plane.

Less than 2 percent of the cattle have been found in violation of the new law. Everything seems to be going smoothly, except for one sticky wicket.

The law provided that the state's Department of Natural Resources was to humanely destroy and bury the violative animals. But where to bury them?

For nine months, while live condemned cows wait in a special holding yard and some dead ones wait in barrels in freezers, everybody's been trying to figure that out. A site was selected on state land in northern Michigan's Oscoda County. Local residents brought court suit. The judge ruled those cows couldn't just be buried, they had to be buried in a pit lined—top, bottom, and sides—with 20 feet of clay. Even that wasn't enough. The case is now in the state Supreme Court. Some people advocate incineration, but others argue that 2,000 degrees is required to break down PBB or else the stuff will be spewed into the air.

That is how issues are born. Why should people in some obscure, underpopulated area have to contend with mistakes born of our urban industrial society? Those people probably live there because it is obscure and sparsely populated.

This is not the first such proposal we've seen. People want nuclear power, but they don't want the power plants near them. They want to

build them "up north." The federal government last year wanted to dispose of nuclear wastes in Alpena County, which borders on Oscoda County. The Navy wanted to put a giant antennae under much of the Upper Peninsula for its Project Seafarer.

I think that's the issue. Why should people who don't participate in the full fruits of our society take the residue from it?

It's a furor, but here's the clincher. It is estimated that the 3,000 head of cattle that might ultimately be buried in Oscoda County, in total, contain two ounces of PBB.

The burial site in Kalkaska County, which has 36,000 head of cattle and hogs in it, contains single animals with as much as a pound of PBB. We have a landfill in Gratiot County that contains 12 tons of PBB. And, Michigan Chemical Company, during its four years of PBB production, turned out 12 million pounds of it, whereabouts unknown.

You may conclude either that people have an inordinate, irrational fear of PBB, or that some other principle is involved. I think the answer is both.

I've done a lot of thinking over the last four years about PBB and its impact on Michigan. I have been forced to try to truly understand it. We at **Michigan Farmer** lived and reported this human and livestock catastrophe a day at a time. You can get too close to these things. The challenge is to rise above it.

The key question is how could a one-time, short-term feed contamination accident dominate the lives of the 10 million Michiganders for so long?

Also, why would a state farm magazine, a member of a group usually noted for timidity, wade into a controversy that was divisive and stood to cost it both advertisers and subscribers?

Building of the Issue

In the fall of 1973, an obscure chemical manufacturer called Michigan Chemical Company was experimenting with a flame retardant material it called Firemaster FF-1. It was a mixture of polybrominated biphenyls, 60 to 70 percent hexabrominated biphenyl. The company had found a market for it as an additive to plastics. When used in plastic cases such as those on televisions, electric razors, kitchen mixers, and other plastic housings surrounding electric motors, it reduced the chance of fire caused by heat.

Michigan Chemical also supplied magnesium oxide, common salt, and trace minerals to many companies, including Farm Bureau Services (FBS). FBS is the farm supply arm of Michigan Farm Bureau, but a separate corporation. There was a shortage of paper bags—as well as many other things—that fall, and Michigan Chemi-

cal was putting most of its products into brown paper bags that differed from one another only by the name stenciled on the bags—poorly stenciled, as it turned out.

An unknown amount of Firemaster—estimated at about 850 pounds—was delivered to Farm Bureau Services Battle Creek feed mill that fall instead of Nutrimaster, the company's name for magnesium oxide.

That fall, several FBS customers began to complain about the feed. Fieldmen were sent out to work with the customers, and by January, 1974, FBS was compelled to agree; there **was** something wrong with the feed. They recalled it, stored it in a garage, and went about business as usual.

On the farms, however, things weren't made right so easily. Cows were losing their hair; their hooves were curling up like skis; they were aborting. Cows ate voraciously and starved to death. Cows and calves were dying like flies. One of the afflicted dairy farmers was Rick Halbert, a young man with a scientific mind and an M.S. in biochemistry. Doggedly, he worked with private laboratories until, by sheer luck, George Fries at USDA saw the results of the tests and suggested the bromine picked up by the mass spectrograph might be part of polybrominated biphenyl, a chemical he had worked with.

Since Michigan Chemical Company was the world's only producer of PBB, the pieces began to fall together rapidly. Thus it was that nearly six months after the contamination took place the Michigan Department of Agriculture (MDA), which has administrative authority over the wholesomeness of feed and food, finally was informed there had been a poisoning.

In May, 1974, the MDA began a massive screening of milk in an effort to find the contaminated farms. A bulk tank load of milk would be sampled and tested for PBB. If the bulk load was positive, tests were run on every individual sample on the load.

Michigan Farmer Reports

The magnitude of the problem rapidly escalated. In our first story on May 18, 1974, we reported the contamination in detail in a full-page story. But no farms had been identified. By our June issue, the number of farms found with PBB had risen to 29. They were quarantined, and we had names.

In July, we reported that Farm Bureau Services and Michigan Chemical Company had agreed to handle claims speedily, and that since all affected farmers were FBS cooperators, FBS would do the claim work. A landfill site was being chosen, and 4,000 cows were to be killed and buried.

Through August, things went smoothly. Contaminated animals

moved off farms to common holding sites for further transportation, destruction, and burial.

But things began to sour. FBS reported one claim settlement and 15 partial settlements. We reported those in the September 7 issue, but we had other stories. Kankaska County, chosen for the burial site, had filed an injunction to stop it. And FBS insurers were trying to find ways out of paying.

By October 5, 173 herds had been quarantined. On November 2, we announced that FBS had sued its insurance company. On November 16, the Food and Drug Administration (FDA) dropped the tolerance from one part to three-tenths part per million (because they'd found better analytical methods), condemning 14,000 more head of livestock.

Then came a gap in our reportage. There was nothing to report. Settlements stopped. Burial stopped. Nothing was moving.

We at **Michigan Farmer** were getting dozens of phone calls, but we had no news. The farmers who called had plenty to say. And they were scared.

So we put together our special issue on PBB for March 1, 1975. We had a colored picture on the cover of animals being buried in Kankaska, since burials had resumed in January. And we had stories that PBB had shown up in human blood tests, that 1.5 million chickens had been killed and buried, that buyers were wary of Michigan animals and their products, and tales of woe on just what the PBB disaster had meant to people on the farms.

By the April 5 issue, we could have filled it with letters to the editor. Many felt our pictures were distasteful, though in the years to follow they'd see much worse many times over in newspapers and on television as disgruntled farmers, unable to get redress, shot their herds with deer rifles and buried them in pits on their farms. But the most interesting letter came from Don Armstrong, executive vice-president of FBS:

"We believe the true story should be told, but only at the appropriate time and under appropriate circumstances, such as, for example, at a trial or a legislative hearing rather than in the pages of a widely read and previously widely respected farmer-oriented magazine."

Armstrong questioned the propriety, accuracy, and timing of the stories.

But our experiences with farmers in the course of doing the March 1 issue had led us to a different conclusion. Editor Dayton Matlick editorialized that PBB was a public health bomb ticking away, threatening farmers on contaminated farms and posing a danger if consumers became frightened.

By now we were also able to explain why there had been no news

between November and February. Farm Bureau Services and Michigan Chemical Company had been fighting with their insurers to come up with a \$15.5 million settlement fund.

By April and May, we could begin to see the greater dimensions of the PBB problem. More farms with PBB levels above federal tolerance were being located. The final number would reach 560. The first suit for illness to a person allegedly caused by PBB was filed.

We were getting reports of the kinds of health problems lower-than-tolerance herds were having, and of health problems people were having. There was a hearing over whether the levels of PBB permitted in food should be lowered, and MDA decided scientific evidence did not merit lowering them.

Farm Bureau Services was beginning to take a harder line on settlements. It began to use the federal standards of permitted levels of PBB in food as a measure of whether herds of animals had suffered economic damage or not. Abuse of that figure—which FDA admitted from the beginning was arbitrary based on the testing ability of laboratories—continues today. A case expected to settle the “low-level herd question” went to court February 22, 1977. (At press time the case was still pending.)

During the summer of 1975, **Michigan Farmer's** reporting of what could easily be called the “PBB disaster” edged off a bit. It had become obvious this was going to be a long seige. We were looking for information that would allow us to answer farmers' questions. And we had an idea those answers existed and were being kept secret.

In March, 1975, lawyers for FBS, Michigan Chemical Company, and farmers who were filing suits against the two firms began to subpoena witnesses and take deposition testimony. I had a tip from a “Deep Throat” source, who said, if I could get my hands on the depositions, I'd have a story and then some. The answers were out there; the lawyers knew the answers; but for them the “proper forum” was the courtroom, not the press.

At that time I did careful research. Depositions are statements of witnesses used by attorneys to prepare court cases, and unlike Perry Mason, seldom are there “secret” or “unexpected” key witnesses who show up at critical moments. The lawyers from both sides know before they go to court what witnesses know and what they'll say.

Depositions may or may not be filed with the court in which the case will be tried, and they may be filed in sealed envelopes hidden from view, or they may be filed open to any citizen's inspection.

Breaking the Story

It was a long shot, but I began calling the Missaukee County Clerk's office monthly, always with the same questions. Are the depositions by so and so on file, and if so, how are they filed? In October, I struck pay dirt. They were filed, open to anybody.

My associate Paul Courter and I spent eight hours in Lake City reading 2,000 pages of deposition testimony from several witnesses onto tapes. They were transcribed, and we put together our story: "PBB: Answers taking shape."

The story caused a mammoth stir, in lots of places. The daily press went nuts, scooped by a semi-monthly, to them obscure, farm magazine. We had answers: a detailed breakdown of how the contamination had occurred, of how FBS reacted, or failed to react, to farmers who claimed the feed was no good, and a lot of inside information on how the feed mill was run. We found that employes had noticed the feed bags were different, had called it to the supervisor's attention, who had told them it was all the same stuff. Since it didn't flow right, employes had stuffed it, handful by handful, through a hole in the mixer through which materials added in small amounts were fed. The rest of the ingredient handling was automatic and computerized.

At FBS, attorney Ken "Red" McIntyre called Courter and blew up. "Where did you get those depositions? They're not in Missaukee County," he said. Courter replied defensively: "Isn't Lake City in Missaukee County?" When McIntyre agreed it was, Courter told him he'd better look again. As it turned out, lawyer McIntyre had misfiled them. He took immediate steps to have them sealed, and no reporter has seen them since—at least in the "proper" manner.

McIntyre was upset. He spent four hours in our offices after that November issue came out. We argued. And it was the same as before—**Michigan Farmer** is not the proper forum. We'd messed up their chances of getting a good settlement in their \$276 million lawsuit against Michigan Chemical Company. Where could they find an unprejudiced jury now?

And the next month they settled, out of court, for less than \$20 million.

Press Influence

Did we affect that low settlement? Not objectively, I don't think. But in the mind of that lawyer, we did, and if that affected his bargaining that's a problem related to his attitude.

During 1976, things were more routine, but very "heady." We won the Detroit Press Club Foundation award for outstanding reporting by a trade publication. Courter and I got \$150 each, our pictures taken with Ben Bradlee from the **Washington Post**, our names in the

Detroit News, and a good reputation among journalists.

The company got \$35,000 fewer advertising dollars per year because FBS dropped its advertising schedule and threatened organized boycotts against our circulation and advertising. But the company stuck with us. It even began to see **Michigan Farmer** as unique. The advertising department compared our PBB coverage with that of other farm magazines.

As for stories, they seemed to fall into a couple of categories. We did some technical work with scientists who were trying to explain how PBB affected cattle and humans. I went to Wisconsin to interview a PCB (polychlorinated biphenyl) researcher and did a story on the effects of PCB and analogies to PBB.

We followed up on the human health aspect and attempted to document just what kind of syndrome that was. We outlined in detail what the "low-level PBB" syndrome looked like.

Going into 1977, there was another effort to lower the PBB tolerance levels, accompanied by widespread loss of consumer confidence in Michigan food products. Seemingly lost in the shuffle were those farmers we were and still are concerned about: Those who have illnesses as a result of their brush with PBB, and those who have suffered ungodly financial losses.

There are many other aspects: the input of the scientists at Michigan State University, the roles of the Legislature and the governor, the roles of scientists, practicing veterinarians, and physicians from all over the country; the effectiveness of MDA in its dual roles of "consumer protector" and "farmer spokesman"; the farmers and consumers who, convinced PBB is deadly, formed the PBB Action Committee that worked for zero tolerance levels of PBB in food and feed.

Impact of the Issue

What lessons did PBB teach us?

Perhaps you'll think this cynical, but I feel that a whole bunch of us, including journalists and lawyers, are anachronisms from another age.

First we have the farmers and feed mill operators, everyone, Mr. Average Joes, and mortal, too. They mix feed ingredients from a small chemical outfit that's selling products it knows nothing about. One bag is something highly toxic named Firemaster. Another is a feed ingredient cutely called Nutrimaster. Both are manufactured in the same plant, the names stenciled on brown paper bags.

A high-school dropout in a white shirt who sells feed gets a complaint from a farmer with manure on his boots and a masters degree in chemistry, and the white shirt wins. The farmer is not taken seriously.

Even when tests show the feed kills rats and calves, the company decides merely to warehouse it and continues operations. That left in the feed mill was enough to create hundreds of low-level contaminated farms. And those kept the PBB issue fired for four years.

Surprisingly it took three years for the first suit to come to trial. And it's still there 17 months later? The lawyers for the farmers, of course, are good guys. In most suits for damages, lawyers get 35 to 50 percent but these settled for 20 percent. Two lawyers working together have 100 suits to bring before the courts. If they could do each in six weeks, that's 11 years. Some of the farmers they represent are on the verge of bankruptcy.

If the journalist tries to help, with the tool of publicity, he is endangering the defendant's right to trial before a fair and impartial jury.

If we talk about the people's right to know, we have the same trouble. Wait until the trial, they say. Then everybody will find out the real facts. But they often settle out of court and no one ever finds out. And who has the staff to cover a 17-month trial?

Given the domination of all branches of government by lawyers, who daily create the legal environment in which we must live, I'm amazed the first amendment has stood as long as it has.

Science can be tied up in this unglamorous bag, too. If you print anything but the most rigid of research, the scientists say you're speculating. Yet science is so slow it can't answer a relevant question anywhere close to the time it's being asked.

Science and the Issue

And science can be, and was, purchased. A study at Michigan State University, commissioned by Farm Bureau Services, under a \$25,000 grant sought to determine if low-level herds had any other problem that might be the cause of the "low-level herd syndrome."

The researcher screened 19 herds, and concluded it was high iodine levels. That study became a red herring many people chased. We called on outside scientific advisors to look at it. They found it full of holes, and we reported it as such. Later, other research squashed the iodine theory completely. It's led me to suspect much of the survey type of research our agricultural schools generate.

MSU defends itself by saying the research results were not kept secret, that anybody could use them, not just FBS. But, the nature of the question delimits the kind and usefulness of the answer.

Science also makes incredibly poor use of case study information. Scientists want a controlled experiment. Yet the longer the time that elapses after a feed contamination, the harder it is to recreate the

situation in a controlled manner. A case study—just one—can identify a problem. Add a half-dozen—or as in this case, a hundred—and it's even more conspicuous. But to a "true scientist," they don't add up to what one "controlled experiment" will.

When the world renowned physician and expert in toxicology, Irving Selikoff, was brought to Michigan from Mt. Sinai Hospital in New York to evaluate PBB-tainted people, he was criticized for having no control group in his study. Does your physician have a control group? When you go to him with a runny nose, does he rush out onto the street to find how normal or abnormal that is by comparing it with random individuals he sees? Selikoff found that of the 1,100 people he surveyed, all exposed to PBB, one-third had symptoms of neurological damage. Critics said, "Ah ha, not all of them were damaged." Toxicology doesn't work that way.

In tests for the carcinogenicity of cigarettes, not all die of lung cancer. Only a small percentage do. Yet the correlation between cigarette smoking and lung cancer is the only cancer correlation that has ever been considered definitely proven.

Influence on Farm Politics

Michigan Farmer's activity probably had something to do with the farm community's political structure. It is clear **Michigan Farmer** got involved because it had to. In Michigan, Farm Bureau is the most powerful farm organization; the others are virtually non-existent. Farm Bureau was doing a good job of dealing with the PBB problem until the low-level-herd problem arose.

Some farmers had very low levels of PBB in their cows—not enough to condemn them—but the cows would not produce. And the farm families often had high levels of PBB—above 5ppm—in their body tissues.

These so-called "low-level" herds have been a festering problem. The government standards, which were set to protect consumers, do not address the problem of economic damage to cattle or the problems that may come from farmers consuming products from these animals. Obviously farm families' exposure to PBB is greater than urban consumers.

When the low-level issue surfaced in late 1974, it became apparent that these farmers had no one to speak for them unless they could speak for themselves. Farm Bureau, which would normally have been the channel for them, was not in a position to express their interests because, as an organization, its own interests were in conflict.

Farm Bureau had access. It gave \$25,000 to Michigan State University to research low-level herd problems—but with the idea of finding a cause other than PBB. That was in the interests of Farm

Bureau the organization, not Farm Bureau the cooperative of farmer families.

It is well to note that every member of the Michigan Agriculture Commission, which governs the Department of Agriculture, is or was a Farm Bureau member. There is no harm in that; every farm person who reaches high position in agriculture in Michigan gets there through Farm Bureau membership; it's the only viable route.

But when the chips came down, Farm Bureau was not in a position to represent some members; thus they were cut off from government access they would have had. And this is where **Michigan Farmer** came in. We told their story.

That mighty structure we're all so proud of—the land grant university, the Agriculture Experiment Station, and the Cooperative Extension Service—was ill-prepared to deal with PBB. And some of the early information, such as that iodine study, became an embarrassment.

Michigan State University has adjusted. It's expertise in toxicology and pharmacology has been vastly increased and a new interdisciplinary campus research organization created. But to my knowledge, the Cooperative Extension Service never became involved in any way.

I want to make this observation. We live in a highly chemicalized society. We've created it, just as we've created the legal system and the first amendment.

The idea of "who's at fault" should be one of the least important ones in a chemical catastrophe. Some way must be found to stop the ripple effects when a contamination occurs. We need a 'no fault' insurance, like we have for drivers in Michigan, that indemnifies those who suffer damage.

Were it not for the structure of legalism, FBS might not have been so defensive about its feed. It might have notified users and responsible agencies faster.

The printed word, in this disaster, caused some problems. Constant publicity reduced consumer confidence in food. But that constant publicity helped a lot of people along the way.

I remember vividly how, at one hearing, a tall, slender, sad-looking farmer came up to me, with tears in his eyes, to thank me for a story we had in a January, 1976, issue explaining what the "low-level syndrome" was in cattle and people.

He was so grateful, he said. His whole family had thought they were going crazy. They couldn't muster enough strength to work. They couldn't get up in the morning, and it took them till noon to milk. Our article led him to have blood tests taken, showing high levels of PBB in his blood. The presence in blood indicated he was

still ingesting it, two years after the contamination took place. We helped that man, not MDA with its lab tests. MDA never found him, and FBS never contacted him at all.