

Case Study of Contamination: PCB's in Feed

More than 325,000 chickens and 750,000 eggs — not to mention 12,000 cases of frozen strawberry cakes — have been destroyed in response to the recent contamination of feed meal in Billings, Mont. More eggs, poultry and meal, as well as pork, grease and processed foods in 19 states, Canada and Japan, are under suspicion in what officials are calling the most wide-spread chemical contamination they have encountered.

The contaminating PCB's (polychlorinated biphenyls) entered the food chain sometime in June. The contamination was first discovered in a routine check by the Department of Agriculture, but bureaucratic routine and slip-ups delayed notification of the Food and Drug Administration until 6 weeks after the sample was taken. The incident raises questions about sampling, testing and notification procedures; even under the best of circumstances there would have been a delay of three to four weeks. In addition, with the current monitoring system, an incident of this size could go entirely undetected, Assistant Secretary of Agriculture Carol Tucker Foreman told a House of Representatives hearing last week.

Although PCB's were banned in 1977, the chemical has been permitted to remain in older electrical transformers and other industrial machinery. Jacqueline M. Warren of the Environmental Defense Fund told the hearing that 295 million pounds of PCB's are currently in use in large transformers. She says the Environmental Protection Agency has authorized continued use of electrical equipment containing PCB's for the next 30 to 40 years.

Knowledge of PCB toxicity comes primarily from an incident of high level contamination of rice oil in Japan in 1968. Among the symptoms observed there were skin rashes and swelling of joints. There is, in addition, suspicion that PCB's cause cancer. The chemicals accumulate in fat in the body and are not degraded.

No human symptoms have been reported from the recent contamination. "It is our best judgment that the short-term nature of this incident and the levels of contamination found so far pose no immediate threat to the health of consumers in the affected states," says Sherwin Gardner, acting commissioner of the FDA.

The sequence of events responsible for the most recent PCB contamination began with a spare transformer in a remote machinery storage area at the Pierce Packing Co. in Billings. Fred C. Pierce II, chairman of the company's board, told the House hearing that a loading vehicle must have collided with the transformer, rupturing a coolant tube. Pierce says that the management had no knowledge of that accident, nor did they know that the coolant, trade-named Pyranol, contained PCB's. About 200 gallons of coolant leaked into wastewater, from which the company recovered solids for use in meat meal.

Pierce Packing Co. supplied the contaminated meat meal to feed manufacturers and directly to farms, including Ritewood Farms in Franklin, Idaho, where the first contaminated chicken was identified. Gardner reports that the distribution of potential contamination includes mink farms in Manitoba, a soup company in Minnesota and frozen food lockers in New Jersey. Some suspect chicken grease is even en route via freighter to Japan. The officials consider the incident a virtual case study in how contamination can spread throughout the food supply.

This incident does not stand alone. Since 1971, there have been cases of leaking equipment contaminating fishmeal in North Carolina and meat meal in Illinois, and fire among stored electrical transformers contaminated fishmeal in Puerto Rico.

Even as the Montana contamination was in the news, another PCB incident cropped up. A Kansas feedlot operator contacted veterinarians for aid when many cattle in

one herd sickened and some died. USDA laboratories determined high PCB levels in the kidneys and fat of the cattle. They learned that the animals had been treated with an oil-pesticide solution in which the oil contained PCB's, Gardner says. The oil came from a salvage dealer and apparently included used transformer oil.

The USDA program that identified the Montana contamination is intended to pick up trends relating to toxic compounds in the meat, poultry and egg supply, but it is not a preventive program, Foreman explains. If each of the 120 million livestock and 3.5 billion poultry were inspected before marketing, the cost would run \$100 billion annually, she says. In addition, given the time it takes to run the tests, the meat is usually on the market before results are known. And for chickens, if every bird was sampled with current methods, there would not be much meat left to eat, Foreman adds. Under the present random sampling plan, 300 analytical samples for each compound are taken for each species every year. "It is very likely that there are a number of localized incidents of contamination every year that we never know about," Foreman says.

A rapid test for contaminants that could be performed on-site would greatly aid the monitoring program. Foreman says inspectors are using a new test for antibiotics at the slaughterhouses and researchers are developing such tests for some other contaminants.

Shortcomings in the administration of the monitoring program, however, are responsible in part for the delay that allowed the PCB's to be distributed so widely. The original sample remained 10 days in a freezer before being sent to the laboratory, results were incorrectly reported and actions delayed. "We handled this violative PCB finding in a routine manner, when we should have had greater sensitivity to the potential gravity of this type of contamination," Foreman says.

Nobody suggests that this incident will be the last PCB contamination. "As long as large quantities of PCB's remain in widespread use, the danger of contamination and its consequent adverse health and economic effects will persist," Warren says. Pierce suggests that, given the probability of future spills, disaster assistance funds be provided to the people and businesses affected. The Environmental Defense Fund believes that PCB's should be eliminated by tougher bans. Idaho Governor John V. Evans says PCB's should be eliminated completely, but Rep. Bob Eckhardt (D-Tex.) believes that would be too difficult and costly. Rep. Andrew Maguire (D-N.J.) suggests that PCB's at least be banned from food processing plants. □



Eggs contaminated with PCB's are thrown into pit by workers of the Ritewood Egg Co.

Wide World Photos