

first quarantining of contaminated dairy herds and other farm animals in May of 1974, several thousand Michigan farm families and their neighbors consumed meat, eggs, and milk that were contaminated with PBB, and in some cases heavily contaminated. The general public in Michigan was also exposed to PBB contaminated products, but to not nearly the same degree as the farm families. The milk marketed by Michigan dairies was

never found to have as much as 0.3 ppm PBB, for this milk came from various uncontaminated as well as contaminated herds and was mixed and homogenized before being sold.

Whether PBB actually has harmed any of the individuals exposed to it is a question about which there was, and is, much uncertainty and debate. The Michigan Department of Public Health (MDPH) has never found any syndrome or signs of

human illness clearly attributable to exposure to this compound. But the adequacy of the MDPH's medical and epidemiological evaluation has itself become a matter of dispute among experts. Walter D. Meester, clinical toxicologist at Blodgett Memorial Hospital in Grand Rapids, has sharply criticized the MDPH study, in part because 70 percent of the persons in the control group had detectable levels of PBB in their blood.

Certainly there is a presumption, derived from the limited testing that has been done with laboratory animals, that PBB might be bad for you. Several years ago, E.I. du Pont de Nemours & Company dropped the idea of using PBB in the manufacture of flame-resistant garments after discovering that this compound caused liver enlargement in rats. And rat-feeding studies initiated by state and federal agencies in October 1974 have shown that both PBB and PCB cause "dramatic alterations in normal biochemical and physiological processes," and that PBB is the more dangerous of the two. As an FDA official reported, "the weight of the evidence at this time indicates that PBB caused greater responses at lower levels than PCB and [its toxicity] may be up to five times [greater]."

And, valid or not, numerous complaints of illness brought on by exposure to PBB have been made. For instance, this past February, Hartley and Sharon Cole, who operate a resort business in Chippewa County in the Upper Peninsula, wrote a pathetic open letter to the Michigan legislature. Hartley Cole and four of the Coles' children, ages 5 to 10, were all sick and miserable, each suffering from one or more problems such as extreme lethargy, severe headaches, stomach discomfort, and stiff or swollen joints. These afflictions began sometime after the Coles started eating meat from some pigs that had been fattened on PBB-contaminated grain from the local Farm Bureau elevator. The pork that the family ate was only lightly contaminated, however, and the analysis of a fat sample taken from Cole himself turned up only 0.15 ppm of PBB.

Various studies are now under way to try to determine the short- and long-term effects of PBB on animals and humans. These include some testing to see whether the Firemaster contained trace amounts of dibenzofurans; these materials can be formed in manufacturing PBB or PCB, and they are more toxic than either of those compounds.

Whatever the consequences of human exposure to PBB are ultimately found to be, the impact of the PBB poisoning incident on the Michigan farm economy

## Briefing

### Clearinghouse for Chemical Carcinogens

Critics of the National Cancer Institute have complained that the institute has not always paid enough attention to the chemical carcinogens that may contribute to the development of as many as 80 or 90 percent of all cancers. One indication that this picture is changing is the formation of a National Clearinghouse on Environmental Carcinogenesis. Frank Rauscher, director of NCI, says that the clearinghouse is to begin operating sometime in May. Its goals are to accumulate information about potential carcinogens, to select the agents to be tested, and to disseminate information about them between government agencies and to the public.

Rauscher described the clearinghouse at the annual science writers' seminar sponsored by the American Cancer Society and held in St. Petersburg Beach, Florida, on 25 to 30 March. He mentioned it in responding to charges made by Sheldon Samuels, safety and health director for the Industrial Union Department of the AFL-CIO, that NCI was withholding the results of tests on 150 chemicals from the public. Rauscher replied that the information was not ready for release because the tissues from the animals treated with the suspect chemicals had not yet been examined to see if they contain cancer cells. He said that the current freeze on government hiring prevented NCI from hiring enough people to do the job. Samuels later softened his comments by saying that he does not think that the delay was deliberate.

In any event, Rauscher thinks that the clearinghouse is one way to keep the public informed. It is really a committee that will consist of about 30 members. There will be representatives from industry, labor, and the public in addition to those from NCI and the various government agencies involved in the identifica-

tion and regulation of chemical carcinogens. These include the Environmental Protection Agency, the Food and Drug Administration, the National Institute for Occupational Safety and Health, and the National Institute of Environmental Health Sciences. The National Cancer Advisory Board and the office of the assistant secretary for health of HEW will also be represented. The cost of the operation should be about \$50,000 per year—relatively modest by NCI standards—because the clearinghouse mainly involves coordination of existing activities.

The committee will be divided into four subgroups, each of which will deal with a different aspect of the problem of chemical carcinogens. These are selection of compounds to be tested, design of experiments (how to detect carcinogens rapidly and accurately is still a matter of some controversy), analysis of the data, and assessment of the relative benefits and risks of continued use of a particular agent. On the basis of the findings of the subgroups, the whole committee will then make a recommendation to the director of the Division of Cancer Cause and Prevention of NCI. The final report of the clearinghouse will be made public. The meetings of the committee and its subgroups will be open to the public.

In the past NCI has been criticized for not letting other government agencies in on what it is doing. Participation of the regulatory agencies in the clearinghouse could solve that problem. This is important because once an agent is identified as a carcinogen it will be up to agencies such as FDA and EPA to regulate—or abolish—its use.

Rauscher says that he sees two potential disadvantages to the clearinghouse. One is that information about a chemical that later proves innocuous may be released prematurely. The other is that he will be accused of seeking publicity—and money—for NCI. Nonetheless he thinks that the idea of seeking to identify carcinogens in as open a manner as possible is sound.—J.L.M.