PCB's ...STILL A DILEMMA

The National Renderers Association is pleased to have the opportunity to participate in this discussion on Polychlorinated Biphynols (PCB's). These products were produced in the U.S. for nearly 50 years before they were finally identified by Sweden as toxic substances in 1966. Production of these hazardous chemicals in the U.S. did not stop until January 1976, when Monsanto made their announcement that they had stopped production.

In the late 1960's, Japan was confronted with a serious food contamination problem. It should be of special interest to note that Dr. O. H. M. Wilder, one of our former staff members now retired, assisted in locating the problem. He discussed the situation with the Japanese Ministry of Agriculture and other research people in Tokyo. Later, one of the Japanese Chemists traced the problem to PCBs in a heat transfer medium in a rice oil refining plant.

In the early 1970's the U.S. identified its first reported industrial PCB accident which involved the feed industry. Although the accident is now history, the cause was the result of contaminated fish meal. The PCB's in the heat transfer medium in a terminal heater escaped into the fish meal which was shipped to poultry producers in many of the eastern states.

Shortly after this accident was identified, the PCB problem was discussed at NRA area conventions and other meetings. A probable list of products where PCB could be found was discussed. Many products, including lubricating compounds, were evaluated. Companies that used terminal heaters examined their operations. The U.S. producer of PCB worked with our member companies that were using a heat transfer medium containing PCB. The problem chemicals used in open systems were removed from the premises of NRA companies and

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Comments by Dean A. Specht, Executive Director, National Renderers Assn., Des Plaines, Ill. at the November 14, 1979, FDA Briefing of Assn Executives on Problems of Contamination of Food and Feed.

replaced with acceptable substitutes. A copy of an early PCB communication to NRA members is attached.

This was followed by an extensive survey that included a number of samples of renderers products that had been in storage since 1965 and 1966 and an additional 438 samples which were collected and assayed for PCB's in the fall and winter of 1971 and 1972. Only one sample out of the 438 samples collected contained over 2ppm PCB and that sample which contained 2.50 ppm PCB was obtained from product that had been processed through a terminal heater where PCB's were used in the heat transfer medium. At this time the PCB tolerance for feeding fat was 5 ppm. Attached is the survey report entitled, "PCBs - The Evasive Chemical". Renderer's products produced in 1971-1972 were typical in background PCB contamination to those produced in 1965-1966 when the following PCB contaminations were found: Poultry By-Product Meal, 0.06 ppm; Feathermeal of light color, 0.06 ppm; Feathermeal of dark color, 0.12 ppm; Poultry Fat, 0.25 ppm; Blood Meal, 0.04 ppm; and Meat-and-bone Meal, 0.03 ppm.

This PCB survey covering all areas of the U.S. including samples from the years 1965-66 as well as 1971-72 illustrates that the PCB problem is the result of industrial type accidents outside of the processing facilities of NRA members.

What is the real cause of PCB contamination in renderers products? What happens to the PCB containing heat transfer medium which is a part of the electrical transformer that requires reconditioning or internal repair? What happens to this chemical when closed systems containing PCB heat transfer medium other than electrical transformers are serviced or repaired? It has

been reported that the 1979 cattle losses from PCB in Kansas were the result of a home-mixed cattle rubbing oil mixture. How and where did this individual cattle producer obtain the PCB? Why wasn't there a plan in force to prevent this hazardous chemical PCB from being given or sold to an individual who did not have the expertise to handle such a chemical?

The industrial accident at the Pierce Packing Company in Billings, Montana reflects the same lack of an overall U.S. plan to control PCB's at the point of the accident. It is obvious that if electrical transformers are going to contain PCBs they must be located an adequate distance from the food or feed processing facility where they are in use, so that a small accident cannot contaminate food or feed ingredients and become a huge industrial accident. Furthermore, food and feed processing plants must be designed to prevent product contamination.

The development of a program to adequately control problems of this type could have eliminated the 1979 accidents in Kansas and Montana. How long must we tolerate the indiscriminate use of hazardous, toxic chemicals in food and feed plants?

If we were to remove all animal products from the food chain, the people of the U.S. and the world would suffer...not only from the lack of animal fats and proteins for food and the joy of eating, but also from the many hundreds of other products made from animal by-products.

The recycling of animal products that are not used for human consumption add substantially to our total well-being and to our total economy. In 1978 the U.S. rendering industry processed almost 8 billion pounds of fat and nearly 6 billion pounds of high protein feed ingredients for a sales volume of nearly

2.5 billion dollars. This 2.5 billion dollars is an important factor in our overall economy. This supply of food, feed and industrial resources must be protected. The U.S. and the world cannot lose a basic resource material of this great magnitude.

NRA has been interested in other areas where potential danger exists. Since most of our member companies are family operations, they are not of sufficient size to operate their own chemical laboratories. Through the years they have learned to associate themselves with reputable commercial laboratories. NRA members have been furnished with a list of laboratories arranged by state and by cities within the state to further help them. The use of a reputable commercial laboratory provides the average size renderer with the services of an assay laboratory that these companies could never afford. Most companies would be forced to close their doors if they were required to install a laboratory with facilities to assay for such chemicals as PCB's and chlorinated pesticides. Most NRA member companies, even those very large companies who do have chemical laboratories, could not exist without commercial laboratories. The methodology for assaying for these hazardous chemicals is not precise. For example, any given sample of fat containing PCBs may contain several different individual PCB chemicals. The same is true for some of the chlorinated hydrocarbon pesticides. A small error in reading modern chemical assay equipment could be a costly error. Instrumental chemists must continually keep in practice almost on a daily basis to enable them to be proficient analysts. The volume of assay work from a one or two plant operation does not provide the volume of assays or the wide range of assaying experiences that is needed to develop the required analytical precision. NRA members must depend on the reputable commercial laboratory.

NRA members have been encouraged to develop chemical monitor programs. Many companies furnish chemical assay reports for every pound of feeding fat that is sold. Yet, other smaller companies find that such a rigid monitoring program is beyond their financial capability. If an elaborate program was developed for the control of such chemicals as PCBs at the cite of their use, such as electrical transformers, a spot-check monitoring program would be adequate. Under todays PCB control program a spot-check monitoring program will never identify some of the small accidents. We must then ask the question..."is the small accident, where a load of feeding fat which contains 5 ppm PCBs, a threat to human health?" After all, this was the tolerance only a few years ago. Where is the evidence that the tolerance had to be lowered to 2ppm PCB?

It has been shown that some strains of laying hens possess the ability to detoxify low levels of PCB contamination. How many other animal species possess this ability? More research is needed in this area.

It is apparent that at least a background level of PCBs is going to be around for many years.

If the producer of feeding fat was permitted to blend low level PCB contaminated products to a level below the tolerance and then sell the product based on the results of chemical assays for safety, a constructive U.S. marketing program could be developed. Fat products contaminated with high levels of PCB could never be treated in this manner. Both the cost of blending and the rist of blending highly contaminated fats would preclude any possible use for feeding fats. The very nature of the collection of much of the raw material for feeding fat indicates that the product is a blend of fats before it ever reaches the processing plant for recycling. Why then should it not be acceptable to blend a product with slightly over the 2 ppm tolerance down

to a level below the tolerance? This year the PCB tolerance for fat from poultry carcasses and fat from fish and shellfish for human food was lowered from 5 ppm to 3 and 2 ppm respectively. Until this lower tolerance has had adequate time to lower the background level of PCBs in products for food consumption the fats received for recycling can be expected to periodically exceed the 2 ppm tolerance. Blending to reduce these fats to a PCB contamination with a level below the 2 ppm tolerance should be a constructive measure and a part of any future PCB control program.

CWJ:ep

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