

colleges and universities in a program to train bilingual teachers to prepare them for the needs of Spanish-speaking elementary school.

It is pleased to see this effort and, like all of us, I would like to see this program in the Record, in the Austin paper describing the

Dr. FREDMAN, President, Mexican American Teachers

(By Leslie Taylor)

of students at St. Edwards University in the first semester of the program—one that can be half a dozen colleges and universities in the country.

The Director of Sister Marie Andre said that the fall in St. Edwards' bilingual teacher education to prepare teachers for the special needs of Spanish-speaking children in elementary schools.

In the first semester of the program, which is a second language, said Sister Marie Andre, "that Spanish should be the first language the child is able to speak."

The program is based on the belief that the dominant language is Spanish for the child to function in both the Anglo and the Mexican-American worlds. When the child is able to function in both Spanish and English, he continues to learn in both.

The aim is to produce a person who is not bilingual but bicultural as well, one who can function in both worlds.

Teachers who will function in such a world must be specially trained. They must be able to teach in Spanish as well as English and they must have an understanding of the culture of the Mexican-American child and how it compares with that of the Anglo child.

Sister Marie Andre said the 1968 bilingual education act guarantees "every child has the right to be instructed in his home language in school."

There are about 250,000 Mexican-American children who need to benefit from bilingual education, she said. She said these children whose dominant language is Spanish and who need three years of language instruction in English in order to be able to learn in English.

Without bilingual training the first three years are wasted. "We need 10,000 teachers to teach this first group of children," she said.

She needs another 10,000 teachers to produce an additional 250,000 Mexican-American children who may have Spanish as their first language and may have English as their second language, she said.

Under the law, she has a right to learn in their own language and culture, she said.

It is addition to general courses leading to a bachelor's degree and teacher certification for elementary school level, courses in the history, psychology and sociology of the Mexican-American culture are required under the four-year program.

The students also must develop proficiency in Spanish in order to teach in Spanish, to solve language learning problems, and to communicate with parents.

With the help of Dr. Olive Wheeler, director of elementary education at St. Edwards, most of the students were placed in elementary classrooms with large numbers of Mexican-American children.

The students worked as teachers for an hour a week gaining the first part of the three years of textual courses with Mexican-American child and his culture.

Dr. Wheeler said all sixteen teacher aides had been invited to return next semester to the schools. The program is now operating in

classrooms in Austin, Dawson, Becker, Colorado, Michigan and Iowa elementary schools.

The second year of the program, students will be working on a variety of work in which they will become more acquainted with the Mexican-American child's culture and language. They will be working on a variety of projects in bilingual education in professional education courses in which the students will be taught to teach in Spanish and English.

The second year will involve student teaching in Mexican-American classrooms.

PCB'S: POISON BY THE POUND

(Mr. RYAN asked and was given permission to extend his remarks at this point in the Record and to include extraneous matter.)

Mr. RYAN, Mr. Speaker, scientific research has clearly revealed the growing presence of a highly toxic, extremely persistent industrial chemical in our environment: polychlorinated biphenyls (PCB's). However, some question still remains as to the full extent and impact of this contamination. In order to assist them, it is essential that researchers have adequate information relating to the quantity of PCB's manufactured and sold, and their uses.

On April 9, 1970, I publicly called upon the Monsanto Co.—the sole domestic producer of PCB's—to release the production and sales figures for this chemical for each year since 1940. My reason for this request was clear. As I wrote in a letter to Monsanto:

These figures are necessary so that scientists can determine the extent to which PCB's are getting into the environment.

Monsanto, however, was totally unresponsive to my request and apparently unmoved by the documented hazards of PCB's. In fact, John Mason, writing on behalf of Monsanto on April 28, 1970, casually dismissed the environmental dangers with the following statement:

It should be emphasized that the apparent PCB problem relates only to the possible effects on some species of birds. (research) indicate(s) that there is no threat to the public health.

Unfortunately, that is not, nor has ever been, the case. The potential threat of this chemical has been well evidenced by scientific findings and revelations of contamination in some mammals, man, fish, poultry, and dairy products.

Thus, on June 18, 1970, I again wrote to Monsanto, reiterating my call for public disclosure of all sales and production data, emphasizing the extreme danger posed by PCB's. Again, Monsanto denied my request, assuring me in a letter of June 30, 1970, that:

Monsanto is taking an extremely responsible attitude to this problem and is doing everything within its power to insure a maximum degree of control to prevent the possibility of the (PCB) seeping into the environment.

Precisely 1 year after that assurance, huge quantities of PCB's were dripping out of 18,000 tons of fishmeal in North Carolina. As a direct result of that incident, thousands upon thousands of poultry, eggs, fish, and other food products were severely contaminated, an-

dangering food supply and threatening our health.

The seriousness of this situation, coupled with the disclosure of additional occurrences of PCB-contamination and evidence of increasing PCB-levels in the environment, brought about a widespread recognition of the severity of the PCB menace and the need to control this deadly chemical.

Yet, it was not until November 30, 1971, that the Monsanto Co. finally made public a summary of its domestic production and sales figures for PCB's since 1960, revealing the startling fact that over 700 million pounds of this dangerous product have been manufactured in this country since 1960. This figure is all the more staggering when one realizes that PCB-contamination is measured in parts per million.

Ironically, Monsanto's stated reason for releasing these statistics publicly is:

Scientists have continued to express a need for the data to make a proper estimate of how much PCB might be in the environment.

That is precisely the reason behind my requests for this information throughout these past 30 months—requests which Monsanto has steadfastly ignored until now.

It must be noted, however, that, although the data disclosed by Monsanto is needed, to fully evaluate the PCB situation a much more detailed breakdown as to uses and products is essential. If Monsanto is to fulfill its obligations to the public, it must release a complete list of all present and past uses of PCB's as well as the names of all products containing PCB's, their manufacturers, and their quantity. Further, Monsanto must, to the best of its ability, make public the disposition of fluids and other products containing PCB's after their usefulness has expired.

I include in the Record Monsanto's press release of November 30, 1971, setting forth a summary of its production figures since 1960. I also include an article from the December 13 Chemical & Engineering News detailing the efforts to investigate further the effects of PCB's in the environment.

The material follows:

Monsanto Releases PCB Production Figures to Department of Commerce

WASHINGTON, D.C., November 30.—Monsanto Company announced today it has released figures to the United States Department of Commerce showing the company's U.S. production and sales of polychlorinated biphenyls (PCB) from 1960 through estimated 1971.

Closed-system electrical uses ranged from 1,000 tons per year to 20,000 tons per year during the period.

The report also shows Monsanto voluntarily reduced its nonessential sales of PCB from the high of 18,000 tons in 1970 to 4,000 tons in 1971. Substantial further reduction will be accomplished in 1972, the company said.

C. P. Cunningham, managing director of Monsanto Industrial Chemicals Co., an operating unit of Monsanto, said, "As part of our control program, the data were originally prepared for the Federal PCB Joint Task Force and other concerned scientists for use on a confidential basis so scientists can properly evaluate the figure and relate them as to impact on the environment."

Monsanto has now chosen to release the figures publicly "because scientists have

continued to express a need for the data to make a proper estimate of how much PCB might be in the environment. We also believe the figures will inform the public about Monsanto's positive actions to limit the sale of PCB to confirmed applications," the company executive said.

"Now that the figures are public information," Cunningham added, "we are confident both the scientific community and the public press will interpret the data properly. These are production and sales figures only. It is the quantity of material that all this material is not in the environment."

"For example," Cunningham said, "over 80 per cent of all sales in the past 10 years have been for closed-system electrical uses. It would be a completely false and irresponsible conclusion to say all PCB produced is in the environment. Much of the material is still contained in sealed electrical equipment where it acts as a fire-resistant safety fluid, protecting human lives and property from the danger of fire and explosion."

Cunningham concluded, "Monsanto continues its program to control the uses and prevent the release of PCB into the environment. To date, we have cut off all sales to paints, plasticizers, sealants, adhesives and all other open-system uses. We are receiving used PCB from customers for regeneration or safe disposal, and we are engaged in an all-out research effort to develop less persistent forms of PCB or suitable products which retain the fire safety features of PCB. We call on other producers, worldwide, to join in this effort."

PRODUCTION AND SALES POLYCHLORINATED BIPHENYLS (PCB) MONSANTO INDUSTRIAL CHEMICALS CO.

(in short tons)

Year	U.S. production	Electrical insulating fluids	All other uses	U.S. export sales, all uses
1971 (estimate)	20,725	14,417	4,497	4,159
1970	20,194	14,364	4,539	4,112
1969	20,437	14,560	4,577	4,112
1968	20,325	14,397	4,628	4,075
1967	20,417	14,789	4,528	4,042
1966	20,296	14,629	4,567	4,024
1965	20,133	14,108	4,064	3,976
1964	20,726	14,444	4,182	4,267

¹ Closed system, transformers, and capacitors
² Insulating fluid (resistor systems, hydraulic/cylinders, plasticizers)

[From Chemical & Engineering News, Dec. 19, 1971]

CONTRAST CONTINUES OVER PCB'S

Widespread headlines were generated earlier this year when 50,000 turkeys in Minnesota, as many as 80,000 chickens in North Carolina, and tens of thousands of eggs at various locations were destroyed after they were found to be contaminated with polychlorinated biphenyls (PCBs). Similar headlines have accompanied other findings that indicate that PCB's are extensively distributed in the environment. PCB's have been found in U.S. and foreign waters, in zooplankton in the ocean, in many species of fish, and in a variety of wild fowl. But even though high concentrations of PCB have been associated with various birth defects in birds and in animals, a definite cause-effect relationship has never been established.

Biological cause-effect relationships are, of course, inherently difficult to establish. The most obvious example involves cigarettes and cancer: That a link exists between smoking and cancer has been recognized for some time, but that smoking causes cancer has

never been conclusively proved. Other such links that are the subject of continuing investigation include those between hormones and homosexuality, viruses and cancer, and PCB's and birth defects.

PCB's have been known for nearly a century, and have been used extensively since the 1930's. Chemically, PCB is a generic term covering a family of partially or wholly chlorinated isomers of biphenyl. Commercial PCB's (42 to 60% chlorine) may contain as many as 50 different detectable isomers. Furthermore, PCB is colorless, highly viscous fluid that withstands temperatures up to 650° F. without degradation, does not conduct electricity, and is resistant to fire. Such properties make PCB an ideal fluid for heat exchangers and electrical equipment such as transformers. These properties also make the more highly chlorinated PCB's very resistant to degradation in the environment, so that their persistence is similar to that of DDT.

Monsanto Co. is the only U.S. producer of PCB, although PCB's are also made in Japan, Europe, and the U.S.S.R. Monsanto, however, is the only company that has released production figures. Since 1960, the firm has made some 455,000 tons of PCB, with output reaching a maximum of 43,500 tons in 1970 (O&EN, Dec. 6, page 18). About 95% of this output has been for closed-system uses and much of the remainder has been either recycled or safely destroyed. Nonetheless, a certain amount has apparently been allowed to enter the environment where contamination continues to be detected.

CONTAMINATION

Last month, for example, Dr. George R. Harvey of Woods Hole Oceanographic Institution revealed that PCB at levels ranging from 1 to 100 p.p.b. have been found in nearly all animal and plant species from the Atlantic Coast. Levels as high as 1.5 p.p.b. were found in zooplankton, Dr. Harvey says, but corresponding PCB levels were not found in fish that feed on the zooplankton.

Also last month, Rep. Gilbert Dodge (R-Md.) disclosed that the Maryland Department of Natural Resources has found PCB at levels as high as 0.5 p.p.m. in soft-shelled clams taken from the Chesapeake Bay. The level is well below the Food and Drug Administration's guideline of 5 p.p.m. of PCB in fish and poultry. Rep. Dodge points out, however, that the clams were contaminated with other chemicals, mostly pesticides, and it is not known whether combinatorial or synergistic effects can occur. Maryland is currently beginning a study to determine if other species in the bay contain PCB.

The November issue of *Natural History* magazine described a three-year study of birth defects among terns on Great Gull Island in Long Island Sound. One specimen found on the island, a four-legged chick that lived for three days after hatching.

The authors, Helen Fluye of the American Museum of Natural History, New York City, and Dr. Robert W. Rieseberg of the University of California's Bodega Marine Laboratory, Bodega Bay, say they also found birds with no flight feathers, with twisted mandibles, and with stunted extremities. The two workers attribute the high incidence of deformities to pollution in the sound.

Dr. Rieseberg says the median concentration of the pesticide DDT in the flesh of all terns was 2.1 p.p.m.—about the same level found in other wild birds, and sufficient to account for the observed stunting of embryos. The concentration of PCB in the flesh of these birds, however, ranged from 5 p.p.m. to 19 p.p.m. Despite these high levels, he points out, no cause-effect relationship between PCB levels and birth defects has been established for the terns.

Laboratory tests in the Netherlands, Dr.

Rieseberg notes have shown a link between the high levels of DDT and polychlorinated biphenyls, a PCB contaminant, and similarly deformed chicks. Moreover, he says, that U.S.-made PCB's do not contain that contaminant.

OPINIONS

Dr. Rieseberg has also collaborated with Paul R. Spitzer of Cornell University in an analysis of birds inhabiting the Long Island Sound area. Their study, disclosed last month, indicates that the species were more contaminated than any other birds in North America. They found that both viable and overvulgar eggs were salvaged from the shores of the sound have PCB's varying from 945 to 2270 p.p.m.

Another Cornell writer, Dr. David Penkell, has found strong evidence of abnormal damage in ring doves fed food containing 10 p.p.m. PCB. His preliminary results, sent to the Environmental Protection Agency in September, indicate that hatchlings from the first generation are born normal. When they hatched again, however, only 20% of the new birds survived. Dr. Penkell is continuing his work in an effort to find why the damage is tested only in the third generation.

Monsanto, meanwhile, continues to "firm behind its contention that there is no scientific data that indicates polychlorinated biphenyls may cause birth defects." A company spokesman indicates that U.S.A. has sponsored several feeding tests in a teratogenicity study, all of which indicate only minimal effects from PCB's. Eggs tested containing 100 p.p.m. PCB, for example, showed only slightly increased stillbirths after 18 months. Dops fed a similar dose for 18 months showed no effects, well as expected. Chickens, however, were served to exhibit loss of weight, thin eggshells, and decreased hatchability. "There is no embryonic deformities observed."

Clearly the PCB isn't stored. Hence withdrawal of PCB from the market by those who produce can't be controlled to reduce the amount of PCB entering the environment. But until a cause-effect relationship between PCB's and birth defects is definitely proved or disproved, there will surround any use of PCB at all.

THE ELEVENTH ANNUAL WEST SIDE COMMUNITY CONFERENCE ON PCB'S IN THE SEVENTIES

(Mr. RYAN asked and was permission to extend his remarks on the floor and to include extraneous matter.)

Mr. RYAN. Mr. Speaker, the greatest domestic problem in this Nation is the decision about the quality of the city—the quality of our life.

Early this year, leading urban from throughout the Nation, concerned citizens of the West Coast and of New York City, and major issues facing our Nation.

More than 40 authorities, as panelists and "discussants" the annual West Side Conference sponsored by the Democratic and Liberal West Side.

The annual conferences are effort to bring substantive community for discussion each year in our program presented in the belief that

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