Chemicals above acceptable amounts

By JUDY JOHNSON
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Food and Drug Administration analyses in May and June showed catfish from Choccolocco Creek with more than 50 times the acceptable level of a chemical substance and carp from Logan Martin Lake with almost eight times the acceptable amount of the same material.

Tests for chlorinated hydrocarbons polychlorinated biphenyls (PCBs) were run on a small quantity of fish, some of which were collected from commercial fishermen on Logan Martin Lake and at the mouth of Choccolocco Creek. Chlorinated hydrocarbons include DDT and its breakdown products. Dieldrin, another controversial pesticide, also was tested for.

THE FEDERAL Water Quality Administration and the FDA have set 5 parts per million as the acceptable tolerance level for either chlorinated hydrocarbons or PCBs in the flesh of fish.

Catfish samples from Choccolocco tested as high as 277 parts per million of PCBs, according to A. W. Granade of the Atlanta FDA laboratory. He said a carp sample from Logan Martin showed 39.6 parts per million.

The survey was run in preparation for a future closer FDA look at levels of various impurities in the flesh of fish in Alabama streams.

The question of whether PCBs are dangerous to human health is still in dispute.

PCBs ARE manufactured in the United States only at the Monsanto plant in Anniston and another in Illinois.

Gene L. Jessee, local Monsanto plant manager, said: "It's the main product." It is produced year-round, while some better-known products like parathion are not.

The fluid is chemically inert, inflammable and has excellent electrical properties. It has been manufactured for 35 years as a safety fluid for electrical equipment.

Granade said there is no doubt the level of PCBs in the samples exceed the administrative guidelines set by the FDA as to tolerance levels. And, he said, there are cases of pesticide residues which also exceed these levels.

JOE CROCKETT of the Alabama Water Improvement Board said no action is planned at present as a result of the findings. "I can't say that they would necessarily require action," Crockett said. "The value of PCB is something that in my opinion has yet to be decided. . .

The whole matter of PCBs is still subject to study and investigation, Crockett said.

The manufacturing source of PCBs is the Monsanto plant at Anniston. Any other sources would be minor and accidental. PCBs are used in a closed eletrical systems such as transformers.

ACCORDING to Jessee, several steps have already been taken to halt any flow of PCBs in the effluent from the plant, and research is underway to determine the best methods of monitoring PCBs and halting the flow permanently.

"We've just scratched the surface on know-how about the product," Jessee said ". . .we wanted to develop qualitative and quantitative expertise. It has been a slow process because of the ability to identify the materials and the lack of sophisticated analysis equipment. . ."

In the past several months, Jessee said, Monsanto has developed the methodology, trained the people and obtained the equipment needed to start some analysis work "to monitor ourselves." There are now seven technical people working full-time on the problem, he said.

". . .we have done those things we found important first," Jessee said. "We made sure no major quantities of PCBs leave the plant. We have spent $300,000 in the last six months to do this. . ."

JESSEE emphasizes that Monsanto's work of defining the problem and coming up with the methods of tackling it is "in its infancy."

The plant manager said Monsanto is aware of the recent FDA test results, although he is not certain of their significance. Monsanto's own lab, he said, is having problems getting consistent results in the measurement of PCB levels. "I don't know whether these (FDA) results are repetitive results," he said.

In any case, he said, "I don't see cause for worry from the public health standpoint. I do see that as a responsible company we have an obligation to minimize the possibility of gross quantities of the materials leaving the plant. We're dealing with PCB trying to define and work out what kinds of equipment it takes to reduce that to no measurable amounts."

ALTHOUGH the equipment devised is designed to keep any gross amounts of material from leaving the plant by accident, large spills of the material have apparently never occurred. PCBs that get into Choccolocco Creek don't get there as a direct result of the PCB manufacturing process. The PCB manufacturing process is an anhydrous (carried on without the presence of water) process.

So how do PCBs get into Monsanto's effluent? "Through things like washing the floor down," Jessee explains. "The vacuum system uses steam and that could get some in it. . .it's very incidental to the process to have any water involved."

The effluent carrying the escaped PCBs doesn't go with some of Monsanto's other effluent through the City of Anniston's sewage system. Instaad, if flows directly into Snow Creek, and from there into Choccolocco Creek.

SO FAR, Monsanto's attempts to halt any flow of PCBs into the creek have taken several forms: "The first thing we did was to install a big catch basin, which prevents major surges of material from leaving," Jessee said.

PCBs are heavier than water, so most such material will sink to the bottom of the catch basin, where it is picked up and recycled into the manufacturing process again. Some of the PCBs remain on the surface of the water, held there by surface tension. These are skimmed off the surface.

"Then we went in the front yard of the plant and put in what we thought was a crude approach, but later found is the best thing around — a massive filter of limestone rock and some graded coke and some concrete dams built at intervals through the thing, which causes all the effluent from the plant to go through this thing. The PCBs adhere to the surface of the limestone and sand and other materials.

MONSANTO has installed a laboratory, which Jessee describes as being "as clean as a hospital scrubroom" with necessary equipment to measure PCBs in part per billion, if necessary. The techniques for the measurements are not yet perfect, though, Jessee said.

Monsanto is still casting around for a final approach to the poblem. Four large cylinders of activated charcoal now stand next to the catch basin, filtering some of the waters leaving the basin as "clear" water. PCBs are being removed from that water. According to Joe Landwehr, an engineer at Monsanto, the results of that experiment are excellent, and the activated charcoal may prove to be the answer to the problem. But there are problems still to be worked out before it is chosen as the answer.

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