

MAY 8 1969

Reliability of DDT Lab Analyses Questioned at Madison Hearing

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Madison, Wis. — The natural resource department's hearing into a petition that it ban the use of DDT in the state Wednesday turned into an inquiry into the reliability of analyses made by a Madison laboratory.

On the witness stand nearly the entire day was Francis B. Coon, who heads the chemistry section of the Wisconsin Alumni Research Foundation (WARF) Institute, Inc., laboratory.

The WARF lab is internationally famous among biochemists as the place where they send samples for analysis as a doublecheck on their own work.

Coon had been placed on the stand Tuesday by Willard S. Stafford, counsel for the industrial task force for DDT of the National Agricultural Chemicals association, which opposes the proposed ban.

Analysis Brought

Coon brought with him a gas chromatograph analysis of a coho salmon caught in a Lake Michigan tributary.

He testified to a series of tests made with the instrument — which detects differences in chemical compounds electronically and indicates the differences by a wavy line of a graph — which showed that the salmon contained DDT and some of its chemical relatives, and PCBs, polychlorinated biphenyls.

Some analytical chemists say the presence of PCBs, chlorine compounds used in industry, make analyses for DDT difficult and have resulted in confusion in evaluating studies of biological samples taken from the environment.

Coon testified that the gas chromatograph tape indicated that the salmon contained DDT, DDD and DDE, as well as traces of PCBs.

DDD and DDE are com-

pounds closely related to DDT. DDD is a fraction of technical (squirr gun) grade DDT and DDE is the material into which much DDT is changed when it passes through a living animal.

DDE shows up on the gas chromatograph tape as a separate "peak" in the line drawn by the machine, but the peaks for DDD, DDT, and the PCB's are near each other.

Coon testified that it was usual practice to modify the DDT by hydrolysis, or saponification (making it into a soap) so that it can be separated from the less soluble PCB's in the gas chromatograph.

DDE is the fraction of DDT which anti-DDT forces have said upsets hormone balance in some species of wild birds.

Victor J. Yannaccone, jr., attorney for the Citizens Natural Resource association and the Wisconsin division of the

Izaak Walton league, which petitioned for the ban, went deep into the procedures used by the WARF lab.

Model Unknown

Under Yannaccone's questioning, Coon admitted that he had not used a gas chromatograph in more than a year, that he had done only 100 of the 15,000 or so analyses made by the lab in the last few years and that he didn't know the model of the machines used in the lab.

He said that most of the work was done by others in the lab and that he checked the chromatograph tapes for accuracy, informing some clients that further testing should be done if there were indications that PCB's were present in the sample.

In about 1% of the samples tested, Coon said, gas chromatography tests were rechecked by another process, thin layer

chromatography, to determine the accuracy of the reports.

He said that lab workers had been aware of the possibility for confusion posed by PCB's since they were identified in Sweden in 1967 and that the hydrolysis step had been available since last year, if needed.

Steak Cut

Coon said that a steak — a cross section of the center of the fish — had been cut from the coho salmon used in the test. The steak did not include the fish's intestine and, he said, he was uncertain whether it included any back fat.

Earlier testimony indicated that DDT tended to concentrate in fatty tissues when eaten by animals.

Throughout the exchange, hearing examiner Maurice van Susteren was kept busy refereeing a series of objections by the two attorneys.

DSW 200985