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DDT Level in Fish Safe, Toxicologist Says

By RICHARD C. KIENITZ
Journal Madison Bureau

Madison, Wis. — A total diet of Wisconsin fish would be perfectly safe as far as DDT is concerned, a leading toxicologist declared Tuesday at the widely watched hearing on whether the pesticide can be banned under state pollution laws.

Dr. Wayland J. Hayes, jr., a physician and professor of biochemistry at Vanderbilt university, Nashville, Tenn., was the first witness presented in defense of DDT. He presented the case of DDT manufacturers.

Called Safe

Previously, 1,800 pages of testimony and exhibits were given in 13 hearing sessions by persons who would ban the pesticide. Hearings are being conducted by Maurice Van Susteren, natural resources department hearing examiner.

Hayes said that in his opinion DDT as now used in this

country was completely safe for the general population. He said a ban would have a harmful effect in countries where it was used for malaria control.

He described experiments with volunteer prisoners, who were injected with amounts of DDT for up to 27 months. Tests also were made on men who had worked in a DDT plant for up to 19 years.

Prisoner Tests

In neither study, he said, was there an observable effect on the health of the men and their work. Their nervous systems, where DDT poisoning would show up first, were not damaged, he said.

He said the prisoners were injected with DDT at rates 900 to 1,000 times greater than an ordinary person's intake. He said the human body eventually built up a balance point at which it excreted DDT at the same rate it took it in.

Asked about the safety of Lake Michigan coho salmon which were found to have 19 parts per million of DDT, Hayes said the average exposure to plant workers in his tests was 17 to 18 milligrams a day, with no harmful effects. Milligrams per kilogram is the same as parts per million, Hayes said. He said that the average person ate a kilogram of solid food a day.

Fish Called Safe

He noted that fish in Wisconsin inland lakes were reported to have only 6 to 7 parts per million of DDT.

Hayes studied zoology and physiological chemistry at the University of Wisconsin in the 1940s before obtaining a medical degree at the University of Virginia in 1946. From 1949 to 1968, when he retired, he was chief of toxicology for the United States public health service.

He testified for a DDT task force of the National Agricultural Chemicals association.

Under cross examination by Atty. Victor J. Yannacone, Hayes said he made no particu-

lar tests for DDT effect on enzymatic functions in the liver. In fish eating birds, DDT in the liver was shown to have caused a breakdown of hormones that controlled the strength of eggshells and eventually reduced reproduction.

Hayes said there had been no clues at that time (1956-'67) that would have caused him to check for that.

Yannacone, attorney for conservation groups seeking a DDT ban, implied that the tests might not have been adequate in connection with the effect on the hormone testosterone.

"Assume that the level of testosterone sufficient for male functions is on the order of five parts per billion and levels below two parts per bil-

lion is sufficient to get rid of your mustache and raise your voice a few notches and preclude you fathering other than a few freaks," he said.

"Can you tell me a simple student's test is sufficient to measure relevance?" Yannacone asked.

Hayes said: "Without doing any math at all, in view of the population explosion, I'm able to deduce that people appear to have an adequate value" of the hormone.

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