

would be ineffective "in ameliorating or correcting all of the infant's life-threatening conditions. . . ."

The amendment will probably be adopted when Congress reconvenes on 23 July. Surgeon General C. Everett Koop has approved it as "reasonable and practical," and it has been endorsed by handicapped, right-to-life, medical, and hospital organizations. The only dissenter is the American Medical Association, which has resisted all Baby Doe-related proposals on the grounds that they intrude on medical decision-making.

—CONSTANCE HOLDEN

Dioxin Trial Pits

Workers Against Monsanto

The dioxin issue is back in court. A trial began last month between a group of Monsanto employees and the company. The group alleges that the company's negligence, dating from an accident in 1949 that exposed some of them to dioxin, is responsible for many of their medical problems. The trial is being held in federal court in Charleston, West Virginia, near the town of Nitro where the chemical company has been operating a manufacturing plant since 1929.

Although the plaintiffs' group includes more than 170 members, the first trial involves seven retired chemical workers who are seeking \$2.5 million each in damages from the company, according to their attorney W. Stuart Calwell. The trial is expected to last several months. Depending on its outcome, the other plaintiffs' cases could be heard in a series of trials, he notes.

Calwell will try to convince a jury that the chemical causes specific medical problems in man. In doing so, he will raise issues similar to those in the Agent Orange case, which Vietnam veterans brought against eight chemical companies including Monsanto. The veterans alleged that the dioxin-contaminated herbicide, Agent Orange, to which they were exposed in Vietnam, caused numerous health problems. A tentative settlement between the veterans and the chemical companies was reached out of court

shortly before the trial was scheduled to begin (*Science*, 25 May, p. 849).

Between 1949 and 1965, the company's Nitro plant was used for making the herbicide 2,4,5-trichlorophenol, or 2,4,5-T, which usually is contaminated with dioxin (specifically, tetrachlorodibenzodioxin). Calwell says that documents obtained from Monsanto dating back to the early 1950's refer to "some substance" being present in the manufacturing process that affected the liver, kidney, and other organ systems of workers. Soon thereafter the company identified dioxin as the "offending agent." Thus, despite the fact that "Monsanto knew of the toxicology of this [manufacturing] process . . . they continued to use it," he claims. He plans to call expert witnesses to testify that dioxin is responsible for liver disorders, nervous system disorders, and abnormalities in lipid metabolism among the Monsanto workers.

Monsanto says that chloracne, a skin rash, is the only long-term health effect that might result from the levels of exposure at the Nitro plant. "We do acknowledge other short-term health effects due to exposure to high levels of dioxin," a company spokesman says. They include respiratory tract irritation; headache, dizziness, and nausea; muscle discomfort; and liver disorders. A recent study also indicates an "association" connecting dioxin exposure to gastrointestinal ulcer incidence among those workers, the spokesman notes. "Contrary to what the plaintiff alleges, [Monsanto] was conscientious in its effort to decrease worker exposure to dioxin. We have behaved responsibly in protecting workers from hazards based on our knowledge and the scientific capabilities available."

Exposure to chemicals besides dioxin will likely also be an issue during the trial. For example, until 1955, Monsanto made para-aminobiphenyl at the Nitro plant, a chemical used in making rubber and now widely recognized for inducing bladder tumors in man. Monsanto says it monitors workers exposed to this chemical and continues to pay their medical expenses. Plaintiffs' attorney Calwell says that he will try to show there is synergism between dioxin and other substances causing health problems among the chemical workers.—JEFFREY L. FOX

EPA Failed to Catch Missing Data on Larvadex

When the Environmental Protection Agency (EPA) proposed to register a new pesticide called Larvadex last spring, it braced for controversy on claims that the compound might be carcinogenic. The pesticide will be fed to chickens to control flies that breed in their manure, and a residue will remain in the chickens and their eggs. This residue (melamine) has been linked with tumors in male rats (*Science*, 25 May, p. 851).

However, the agency ran into an entirely unexpected problem, one that its toxicology checkers simply missed in earlier reviews. Although the safety studies submitted by the manufacturer, Ciba-Geigy, were sound on carcinogenic risks, they failed to take full measure of the chemical's fetotoxic (embryo-damaging) effects.

This fact came to light after EPA officials began sorting through the more than 100 comments they received on Larvadex. Two letters from California state agencies and one from the Natural Resources Defense Council pointed to the same problem. In running tests on reproduction, researchers had recorded fetotoxic effects (such as a high rate of abortion or low birth weight) for all dose levels at which the chemical was fed. But they failed to ascertain one essential parameter—the dose at which no effect is seen. The EPA requires that this bottom end of the spectrum be clearly identified.

Ciba-Geigy has been told to redo one reproductive study, a task that will take at least 6 months. The company called the decision "disappointing" and "inappropriate," noting that the EPA has had the data on fetotoxicity in its files for almost 2 years.

The decision has been awkward for the agency as well. The data on Larvadex have been under intense scrutiny since August of 1983, when the EPA ended an "emergency use" waiver under which Larvadex was being used in 28 states. Farmers were told that the pesticide would be back on the market very soon. "When you do 7000 reviews a year," an official said, "you're going to miss on some."

—ELIOT MARSHALL