

From the desk of
JAMES D. WILSON

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Ken -

For your information -

I helped PR draft this
proposed Issue Brief. A
second draft is underway;
copies will go to you and
Bistline for comment.

Jim

File: Agent Orange 1K

Issue Brief

Draft: 12/9/82

Agent Orange

During the Vietnam War, Monsanto and several other U.S. chemical companies manufactured to government specifications several herbicides used by the armed forces. Today, Monsanto and six other companies are being sued by a large number of Vietnam War veterans who claim that their health was injured by exposure to one of those herbicides, Agent Orange.

Monsanto believes that few if any of the injuries these soldiers may have sustained resulted from exposure to Agent Orange. Furthermore, the company contends that responsibility and compensation for any injuries suffered in the line of duty properly rests with the federal government.

Issue. Did Agent Orange or its component chemicals cause the health injuries the Vietnam War veterans now claim? And if so, who is liable for damages?

Monsanto's Interest. Monsanto and others ^(manufacturers of Agent Orange) have been sued by a large number of Vietnam War veterans who claim that the presence of ^(a toxic contaminant) 2,3,7,8-tetrachlorodibenzodioxin ("TCDD" or "dioxin") in Agent Orange ~~they made~~ caused a wide variety of health problems. Several billion dollars in damage claims are at stake, and Monsanto could be liable for a large part of if the courts rule in favor of the veterans.

Background. Between 1967 and 1969, the U.S. Government sprayed large quantities of several herbicides--Agents Orange, White, and Purple -- on Vietnamese fields and forests to deny the Viet Cong food and cover. These operations exposed thousands of U.S. servicemen and Vietnamese to the herbicides, especially to the most common one, Agent Orange. Similar to herbicides commonly used in the U.S. to control broad leaf weeds in lawns and other grass crops, Agent Orange contained forms of the herbicides 2,4-D and 2,4,5-T.

Use of Agents Orange, Purple and White in Vietnam was condemned by some in the United States as soon as their use became known. The tide of environmentalism was then in full flow. Many Americans felt anger at U.S. involvement in the Vietnamese civil war. Many scientists also felt responsibility for the damage caused in Vietnam by these products of modern American technology. Consequently, there were investigations into the nature of 2,4-D and 2,4,5-T and the subsequent discovery that Agent Orange contained substantial amounts of a now notorious impurity -- 2,3,7,8-tetrachlorodibenzodioxin, "TCDD," or "dioxin."

This chemical forms unavoidably during the first stage in 2,4,5-T manufacture. It can be eliminated essentially completely from 2,4,5-T products, as is now done, but before 1971 it was not considered dangerous enough to people to warrant the cost and effort required to do so. The acne-like skin condition now recognized as the first signal of excessive exposure to 2,3,7,8-TCDD and similar molecules was then considered a normal consequence of work in the 2,4,5-T plant.

2,3,7,8-TCDD possesses peculiar toxicological properties. There is an enormous difference among reactions of various animal species to it, and there is no obvious cause of death in those animals that die. Guinea pigs die if they ingest less than 1 millionth of a gram (1 microgram) of 2,3,7,8-TCDD, but hamsters survive a dose one thousand times larger. Other animals tested (rats, rabbits, mice, monkeys, and dogs) are 10 to 100 times less sensitive than guinea pigs. Recently 2,3,7,8-TCDD has been found to act in some way to block certain hormone-like actions in the skin and thymus gland. Through a complex set of changes this thymus gland interaction induces, the animals very sensitive to TCDD die because basic metabolic functions stop. For reasons no one yet understands this does not occur in hamsters or, apparently, in man. Our basic ignorance of how and why TCDD acts has made it practically impossible to predict what will happen to people exposed to it, although usually animal tests give us a fair ability to do that.

However, we do possess some knowledge of TCDD's effects on humans because of several cases of accidental exposure. The most dramatic of these occurred at Seveso, Italy, in 19XX. The most illuminating accidental exposure followed an explosion in Monsanto's 2,4,5-T plant at Nitro, West Virginia, in 1949. There some 70 workers were exposed, some of them heavily. If they had been as sensitive as guinea pigs to TCDD, many would have died. None did. In fact, in the years since, this group has been healthier than average, except for persistent chloracne. All of this suggests strongly that people do not suffer any injury from doses of TCDD that do not produce chloracne.

However, even if subsequent research reveals health effects of Agent Orange or its components not now known, the question of who is liable remains unanswered.

Before Monsanto began to manufacture Agent Orange for the military, the company had made 2,4-D and 2,4,5-T for more than 20 years. During the war, the government took control of the production of 1,2,4,5-tetrachlorobenzene, an essential raw material for the manufacture of 2,4,5-T. This action forced Monsanto to make Agent Orange for federal purchase or shut down the plant that produced 2,4,5-T. The company chose to make Agent Orange.

As a supplier to the government, Monsanto kept it fully informed of the known hazards involved in the use of the chemicals in Agent Orange. Whether or not the government used that knowledge to protect the soldiers exposed to it relates more to the government's liability than to that of a manufacturer.

Monsanto's Position. Monsanto denies ^(on two grounds) that its actions injured members of the armed forces ~~on two grounds~~.

First, recompense for any injuries suffered in the line of duty has always been and should be the responsibility of the federal government. As a supplier, Monsanto is bound to share with its customers any knowledge about hazards attending normal or abnormal use of its products, and the company did so in this case. Monsanto shall not be held responsible for not supplying information that did not exist at the time.

(Monsanto does)
Second, ~~we do~~ not believe that the list of health complaints claimed by the veterans, except for chloracne, have any connection with Agent Orange exposure. Many people have been exposed to 2,4-D, 2,4,5-T, and tetrachlorodibenzodioxin over the past 30 years. The symptoms evidenced by those heavily enough exposed to be sick are quite specific: nervous-system damage from 2,4-D and 2,4,5-T, and chloracne and thymus malfunction from 2,3,7,8-TCDD.

~~We are keeping an open mind on the health issue.~~ The Veterans Administration has started a massive study of Vietnam veterans' health, through which they hope to be able to compare troops exposed to Agent Orange with those not exposed. If any subtle effects not discernible in the smaller studies done to date by Monsanto and others show up in the VA study, Monsanto will be the first to change its position. At the moment, however, the weight of evidence does not support any contentions of widespread injury.

Other Voices.

Litigation.

Outlook.

Contact. J.R. Condray