

Defoliants and weedkiller

From Professor Steven Rose and Mr. Don Adamson 15.5.71

Sir. The Stanford Group has now added its name to the list of those who have studied the evidence concerning the effect of defoliants in Vietnam and concluded that their use represents a war crime. The scientific and legal opinion on this issue has become overwhelming. The first evidence that the herbicide 2,4,5T was potentially both toxic and teratogenic, because of the presence within it of an impurity produced during its manufacture came about a year and a half ago from reports of industrial accidents in its production in Britain and from toxicological studies in the United States. Since that time, its use has first been restricted and then allegedly phased out in Vietnam.

Evidence accumulated over the past year has made it fairly certain that pure 2,4,5T and, to a lesser extent, 2,4,D are both potentially teratogenic—that is, their use causes birth deformities similar to those resulting from thalidomide.

The American Association for the Advancement of Science made a study of the effects of defoliation in Vietnam and concluded that, quite apart from the long-term ecological consequences of destroying forest, swamp and cropland, there had been significant increases in the numbers of deformed and stillborn children in defoliated regions of South Vietnam. At one point, the Saigon regime placed

a security ban on the release of their figures. One of us on a visit to Hanoi last December to investigate the effects of the defoliants, saw the deformed babies of mothers who had been sprayed whilst pregnant. Thus the clinical evidence, whilst circumstantial, is compelling. Compelling enough, indeed, for the United States Government to have announced its intention to phase out the use of herbicides both for agricultural purposes in the United States and for military purposes in Vietnam.

And yet the British Government has refused to act with respect to these agents. It still maintains that they are non-toxic to humans, and therefore not banned under the 1925 Geneva Protocol on Chemical and Biological Weapons. And it still refuses to abandon the use of the herbicides in this country for agricultural and forestry purposes. Is it not time, in the interests both of remedying the Government's nonsensical international position on the defoliants as weapons and of protecting the lives and health of agricultural and forestry workers (and industrial workers involved in the manufacture of the chemicals), that positive action was taken on both these points?

Yours, etc.,
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Defoliants in Vietnam

From Professor J. D. Constable and Professor M. S. Meselson

Sir, In that readers of *The Times* may not be familiar with the actual conclusions of the AAAS (American Association for the Advancement of Science) Herbicide Commission, some emendation of the references to the AAAS in a letter of Professor Steven Rose and Mr Don Adamson (May 15) on defoliation in Vietnam is needed.

Although the AAAS commission noted unusually high stillbirth rates in one province that had been extensively defoliated, this cannot be considered to necessarily result from the use of herbicidal agents. Similarly, the increase in the rate of two congenital anomalies reported by the Saigon Children's Hospital during the years of maximum herbicide use will require much more investigation before it can be even reasonably attributed to the effects of these agents.

Our wish to clarify these specific points does not change our concern and dismay at the economical and ecological damage to Vietnam that has indubitably resulted from the use of chemical agents whose medical effects have not been yet adequately evaluated.

Yours etc,
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