

27 August 1971

Dr. Richard A. Cellarius
Department of Botany
University of Michigan
Ann Arbor, Michigan 48104

Dear Dr. Cellarius:

I am afraid that I do not have much advice to offer regarding the domestic use of herbicides. Although I have spent a considerable amount of time looking into the ecological consequences of spraying in the tropical forests of Vietnam, I know relatively little about the possible hazards of domestic herbicide use. There are, nevertheless, a few suggestions I might offer, although none of this is likely to be new to you:

1. Herbicides containing picloram (Dow, Tordon) should not be used on a large scale until we know more about the persistence of this chemical. It is certainly one of the most persistent herbicides known. The hazard is that it may contaminate ground water and, because of its selective action against particular dicotylenous species, could shift the floristic composition over large areas without necessarily being suspected of having done so.

2. Regarding the toxicology of the herbicide 2,4,5-T, my views are outlined in the enclosed copy of a recent letter to William Ruckelshaus.

3. The use of methol arsenic compounds as herbicides may entail toxic hazards in spite of reassurances to the contrary from the manufacturers (Ansul-Phytar) and the Department of Agriculture. In particular, we need to know more about the behavior of methol arsenic compounds in the environment. An extremely able scientist with whom you may wish to consult in this connection is:

Professor John Wood
Department of Biochemistry
University of Illinois
Urbana, Illinois

Finally, it seems to me that there is a real need for a thorough review of the costs versus gains with the growing, and already vast, use of herbicides. I doubt there is anyone who has a grasp of anything like the whole picture. Beyond that, there is a very great deal of uncertainty that needs to be cleared up with future research. Unfortunately, the questions usually come up in isolation of one another- under rigid time schedules. The result is a never ending series of not very useful committee reports based on incomplete information and generally possessing narrow viewpoints, either excessively favorable to the industry or uncritically dedicated to environmentalism.

Sincerely yours,

Matthew Meselson

MM:mm
encl: 1