Mr. OTTO: Dr. Coon, could you state to this committee in a very simple way the difference between persistent pesticides and non-persistent pesticides? As you know, we are concerned more with the persistence of substances such as D.D.T. Would you be able to put this very simply to us, Dr. Coon?

Mr. COON: I think so. A persistent insecticide is one that does not change chemically; it remains, chemically speaking, in the same form for a long period of time under a wide variety of weather, temperature and humidity conditions and so forth. The D.D.T. remains as D.D.T.

A non-persistent pesticide is one that is broken down by temperature or other weather influences such as moisture, rain and so on, into chemical parts that are of no significance, toxicologically speaking. Now, occasionally a pesticide will be changed chemically and it will become more poisonous as a result of such changes, but this is not as common by any means as the changes which will detoxify the pesticide.

Mr. OTTO: In other words there is the same problem with these persistent pesticides as there is in the case of detergents. As you know, the chemical properties of detergents did not or do not up to this moment change but remain as persistent detergents, no matter where they are used, how or for what period of time. Assuming that they will be successful in changing the chemical composition to make detergents no longer persistent, would you say there is also a chance within the next ten years or so of developing as good a pesticide as D.D.T., we will say, but which is not persistent.

Mr. COON: Yes, I think there is a good possibility of this happening. In fact, a number of the other chlorinated hydrocarbon insecticides we already have are much less persistent than is D.D.T.

I dwelt on D.D.T. in my earlier comments because of its reputation as an outstandingly persistent agent. I believe it might be said that D.D.T. is the most persistent of the pesticides which are in wide use at the present time.

Mr. OTTO: Thank you very much, Dr. Coon.

Mr. WHELAN: Mr. Otto directed one question to Dr. Coon which I do not believe I understood exactly.

Dr. Coon, would you care to say who you think is the worst offender in the misuse of pesticides and insecticides? Do you think it would be the agricultural people or those who spray parks and that sort of thing? I am now speaking of D.D.T. In which case do you think the chance of human contamination would be worse.

Mr. COON: Spraying agricultural food crops is one way in which there is hazard to human beings from the standpoint of pesticide residue. There is some operational hazard. However, D.D.T. is not as strong an operational hazard as many other pesticides we have because of its relatively low toxicity compared with many others. It does not readily absorb through the skin unless it is in solution. Many of the other chlorinated hydrocarbons are much more readily absorbed through the skin, and this is an additional avenue through which toxic effects can take place.

Mr. WHELAN: As you know, some of our parks people object to using D.D.T. for mosquito control because it is supposed to have a toxic effect, and stays in the area. Is this so?

Mr. COON: I cannot think of any reason why D.D.T. would affect the human population any more by that manner of use than by the agricultural operational use.

Mr. WHELAN: I have another question, although it may be a wee bit off the subject. Would you say that mineral deficiencies in our soil would result in much more harm? I am referring to our crops and foodstuffs which are