

We like to think that we have found this compound by organized direction, but many of the great discoveries that we have made have really been made incidentally. Some group of fellows thought they would do it this way instead of that way. The point about the scientist is that he observes any surprises that come up and pursues them. Some of the greatest discoveries made have been achieved or developed in this way. For example, we had been feeding antibiotics to animals as a means of improving their growth, and this was quite incidental. We were looking for something else. When we got more growth than we expected, we thereupon searched further to discover the reason, and in doing so we found antibiotics. I happened to be in on it. It was a complete surprise to us.

However we do try to follow a rather consistent procedure based on experience, and with the hope that we are continuously improving the accuracy and the efficacy of our methods. Does this answer your question?

Mr. MITCHELL: Yes, it does. But another question arises. You mentioned the toxicity of pesticides and insecticides and so on. Have you any proof as to certain levels of ingestion of pesticides and insecticides by humans of what you would call a safe amount of residue? Have you any sure idea of the levels from any criterion, whether you say this is or is not injurious? I have asked this question of other witnesses and I am not sure. I do not know whether it has been properly answered or not.

Mr. COOPER: We do have an indication of the toxicity to the human being in the case of malathion. We have had a selection of human beings who have been exposed to various concentrations over varying times. We also have data when dimethoate has been fed to human beings, and the responses have been closely documented. We have found in the case of malathion that the human result closely approximated what we would expect to find in a dog or rat. This is as far as I can say. But we have documented evidence as far as the toxicity of these compounds goes. I mean these two compounds as they have been applied to human beings.

Mr. MITCHELL: You are still engaged in the problem to show what percentage of waste would be in it?

Mr. COOPER: I was thinking more of the toxic level. We do know that at the levels we worked at the residues we expected to find indicated that the product would not be detrimental to the human being, to the best of our knowledge. We have with us reams and reams of brief. We put these out for the medical trade, and we send them all over Canada. I send them to every source. These are updated from time to time whenever we get further information. This one deals with phosphate esters, and it has been based a great deal on the work being done today on cholinesterase.

Mr. MITCHELL: This would be sent to poison control centres?

Mr. COOPER: Yes, and to the medical profession generally as well as to veterinarians. We try to insure that they are kept currently informed. But the difficult thing is to impress upon people to keep their literature current. There is so much of it going out from industry to doctors and veterinarians, that the tendency is for them to throw it into the waste basket. Yet it contains invaluable information which could save lives, if it were retained. As far as toxicology is concerned, I believe you have had petitions presented here. I have one here, if you are interested.

Mr. MITCHELL: Maybe I am asking for some heavy reading.

The CHAIRMAN: Very heavy reading indeed. I take it this is all one project?

Mr. COOPER: Yes, this is all one project. This was the start of it. I believe there is no other field in our welfare that is so well documented as