support work going on at the company's main experimental station in the United States. The balance of roughly, $100,000, is being spent in Canada on the type of thing which you would call more control, or safe use. This is done through Dr. Cooper and his staff, who provide grants for the various universities in Canada.

Mr. OTTO: You are spending about one-half of the budget on development, and one-half on protection?

Mr. STOVEL: That is right.

Mr. OTTO: By the tone of Dr. White-Steven's article, there should be about 90 per cent for development and 10 per cent for testing.

Mr. MCDONALD: I think there is clarification for that.

Mr. STOVEL: I have divided the sum, with, one-half to be spent in Canada versus what was spent in the United States. Virtually all of the United States is in the developing end, and some of the Canadian is also in the developing end, so it would not be as high a figure as Dr. White-Stevens used, but rather somewhere in between.

Mr. OTTO: You have pointed out that according to certain calculations two-and-one-half acres are required per person of population in order to feed that person as compared to the present 2.8 acres of arable land that we have per person. Is there any possibility or likelihood that with the development of better pesticides and insecticides this 2.8 acres could be increased substantially, or is this going by the mountains, the waters, and so on?

Mr. WHITE-STEVENS: Well, to some extent, yes. There are great areas of the world, for example, there is the central part through Africa which is contaminated by the tsetse fly. This area is roughly 4,000,000 square miles, and is equal to the continental limits of the United States. This is virtually denied to the agricultural productivity of man by domination of the tsetse fly which produces sleeping sickness in humans. It carries the sleeping sickness to human beings. And there were areas until recently, in India, which were denied to productivity because of the dominion there of yellow fever and malaria, brought about again by mosquitoes and insects. In recent years this situation has been greatly relieved by the use of D.D.T.

However I think there is a limit to the amount of land worth cultivating, and that more of the world cannot be adequately cultivated. I think of course that we are rapidly reducing the amount of land that is needed to support one human person through one year with food, and this is being done through discoveries in agricultural science. I am sure that productivity in North America at the present time certainly could support one human being on somewhere around from one to one-and-one-quarter acres. This is the answer to the need to increase efficient production. But we would have to control all forms of pests and predators virtually completely in order to do this effectively.

In this pamphlet of mine there is a summary of what the estimated costs are. These are very hard to pinpoint. The total cost of developing a compound is in the vicinity of $2¼ million from its discovery to putting it on the market, and of this sum well over $1,000,000 is involved in the production phase of it. So that leaves, roughly, $1¼ million, which is pretty close to $500,000 to $600,000 per pound. And I think the efficacy of safety development work which you mentioned means that at least $600,000 is involved in safety procedures. However, you have that chart in front of you now, and in the centre of the chart, down here, you will find metabolism, and that is divided into two categories, physiology and toxicology.

Physiological studies are concerned with the fate of the compound and with the levels at which it is likely to be used; that is, with the residues which