am interested in how these costs are arrived at. What do they involve? Is it the total cost of developing a compound, or is it merely the cost of your branch?

Mr. COOPER: The figures given are the total costs so far as the development of the compound is concerned. We all contribute to it. We know almost down to the last dollar what each phase of development will cost us. In toxicology you know that you must spend so many dollars, if you want to do reasonably good work, and you know what your lab costs will be. We can determine very accurately the costs of any one phase of development of a compound.

Mr. ENNS: This leads me to the next point where you say that if the promotion of a certain pesticide seems uneconomic, this would discourage it, because it would not be marketable. A conclusion to that effect is made somewhere along the line. What is the level where you may find a product to be uneconomic or economic as the case may be? Do you have a market price envisioned at the time of its research, where you will say if we can get this below a certain figure, we can sell it, or otherwise? How do you establish what is economic?

Mr. WHITE-STEVENS: Perhaps I should address myself to this problem which is a very difficult one. The costs included in this table and in the brief include of course compounds which fall by the wayside. As to investment in a compound which may turn out not to have a satisfactory margin of safety, or which may not be economic to the farmer, in determining this we use a rule of thumb, and if we find that a compound is not going to make a profit of let us say three to one, if it should cost, let us say, $1.00 to create, then we must expect to get back $3.00. Sometimes we can make it at one to ten. But if the costs are greater than these, it is a failure and we therefore abandon the compound.

We have had compounds which looked promising, but when we finally got them out in the field and put them to work, we found that it cost $100 per acre per year perhaps to be effective, so we abandoned those compounds and turned our attention to compounds which would be more effective. There is always a wide margin. But in general you can say that if a compound is going to cost the farmer less than a three to one ratio, as a return to him versus his investment, it will never go.

Mr. ENNS: So there is a built-in price control?

Mr. WHITE-STEVENS: That is right. When we start out at the top of the table, it may cost as much as $5,000 a pound at that stage of the game. But during the flow sheet, our chemical engineers work to try to find a way to produce it economically. If they can come out halfway down, then we can go along with it. But if we see that we cannot do it, it is abandoned. We are working on a compound now and the chemical engineers processing the development are striving to get it below $13 a pound. But we do not think we should consider it unless it gets down to around $6. Maybe we will find a way to produce this in a much cheaper manner. Thus economics follows the development of these compounds at every stage, and we use as our formula, as it were, three to one, with a view to it being of benefit to the farmer.

Mr. ENNS: This ratio is tied to the production and to the lowering of costs. But the economics of the farm crop enters into the picture too, because with an increase in the value of his crops, the farmer can afford to spend more on this kind of thing.

Mr. WHITE-STEVENS: Yes, sir.

Mr. ENNS: You alluded to the role of crop management in your statement in determining whether or not this is feasible, that is, whether it is a feasible promotion and one that would provide the farmer as well as the producer with a profit. There has to be a profit to the company as well.