

this figure represents as a percentage of the gross. I do not know what is the gross in the agricultural products throughout the world, because when they get into Cyanamid of Canada Limited they are confounded with other non-agricultural products, and the same applies to the international division abroad. I think the over-all figure for the chemical industry is in the vicinity of between five and eight per cent of the gross, and I would estimate that ours lies somewhere in that area.

Probably the DuPont company spends more funds on research and development than any other company, and their figure goes up to eight per cent. Mr. Greenwell, the president of that company, made a statement to that effect recently before the Security Analysis Society Association. I am quite sure our company comes into that general scope. It is probably more than five per cent of the gross and less than eight per cent, possibly $5\frac{1}{2}$ per cent or 6 per cent. Of course, this includes all the attendant expenses, including the business of registration, the business of extension, which Mr. McDonald mentioned, instructing, and publishing information on these compounds. The whole business is wrapped up in a single entity.

Mr. GELBER: You mentioned grants to universities, and that field was going to be my next question. What is the relationship of the research of your company to the universities? Do you use the universities? Do you give them problems?

Mr. WHITE-STEVENS: Perhaps Mr. Cooper would like to answer that from the Canadian standpoint.

Mr. COOPER: We have grants and aids throughout Canada generally on specific problems. If you are interested, I have here one that came in last week on malathion from the university of Alberta. This was work that was set up with the university through the entomological department. It is for a study of the effect of malathion and malathion additives on resistance in insects for a doctoral thesis; and the insect chosen was the German cockroach. The student, who happened to come from India, worked for three years on his thesis. He has just finished and has obtained his doctorate. He has done an elegant piece of work in connection with resistance on cockroaches as it pertains to malathion.

Those are the types of problem we have studied at the universities. We put out grants, which run from \$1,200 to \$3,500 per year, based on a two or three year program, and we run around \$14,000 to \$18,000 per year in respect of this type of grant.

Mr. GELBER: Do you give them the money and the problem?

Mr. COOPER: No, we do not in any way dictate to the universities what they shall work on. I request that the individual head of the department submit to me ten or twelve copies that he would like to have his graduate students work on, and I will generally pick three or four which I feel will contribute to our over-all knowledge. Then we will say "all right, we will support any one of these four", and we reach agreement by discussion. There is no coercion or request for a specific piece of work. We do not say: "If you do not do this we will not give you the money."

Mr. GELBER: Do you know offhand what universities you are dealing with at the present time?

Mr. COOPER: The University of British Columbia and the University of Alberta; we have a small grant in respect of the University of Saskatchewan; the Ontario Veterinary College; the Ontario Agricultural College; Macdonald College; and one program will go to Laval this coming winter. This varies depending upon whether the school feels they have sufficient students who are interested in entomology, toxicology or chemistry.