the Medal "for outstanding research in agriculture" from the Royal Agricultural Society of England. Walton's many friends all over the world will mourn the untimely death of this outstanding scientific worker.

J. Hammond
T. Mann

Dr. F. Tattersfield, O.B.E.

Dr. Frederick Tattersfield died at his home in Harpenden on May 1 at the age of seventy-eight. He may well be described as the founder of modern research on insecticides.

Dr. Tattersfield was born near Dewsbury in Yorkshire and went to Dewsbury Grammar School and the University of Leeds. From Leeds he graduated in chemistry with first-class honours. His first job was in association with the Leeds City Analyst, where for a number of years his work ranged over all the typical activities in such a department. In 1908 he joined a paint manufacturing firm; here his work was chiefly concerned with research on anti-fouling paints for ships.

Dr. Tattersfield went to France in the First World War as a founder member of the Friends' Ambulance Unit. He was invalided out in 1917, and went to Rothamsted Experimental Station, where he remained for the rest of his working life. He originally had a temporary appointment in the Chemistry Department, but he soon founded the present Department of Insecticides and Fungicides, of which he was the head for twenty-nine years.

Dr. Tattersfield's earliest work was concerned with the control of soil pests and he carried out some work on the structure – toxicity relationships of chemicals to wireworms. He also studied the factors influencing the decomposition of naphthalene in the soil and the effect of different rates of decomposition on its insecticidal action. He then proceeded to study the effect of a range of chemicals on the insects that attack the aerial parts of the plant, again attempting, so far as possible, to relate toxicity with structure in some systematic way. In the course of this work he discovered the outstanding ovicidal properties of dinitro-*o*-cresol, a substance which has been used as a winter wash for fruit trees ever since. At that time chemical manufacturers had little confidence in the development of effective synthetic organic chemicals for pest control, and Dr. Tattersfield in his search for highly biologically active chemicals turned his attention to plants. He examined a wide variety of plants for insecticidal activity, but his main work was done on the fish poison group, particularly *Derris* spp. and *Tephrosia* spp. and on *Pyrethrum*. His contributions on the isolation of the active principles of these plant products, the assessment of their insecticidal activity and their chemical estimation were quite outstanding. He studied many phases of the production and assay of pyrethrum as an insecticide and played a large part in the founding of the Kenya pyrethrum industry, an industry which has proved of the greatest value to the economy of the country.

During the course of his work, Dr. Tattersfield evolved precise methods of administering doses of chemicals to insects and introduced statistical procedures for the quantitative assessment of results.

The mere cataloguing of Dr. Tattersfield's contributions to knowledge on insecticides, substantial though they are, gives a very inadequate idea of what the subject owes to his influence which, fortunately, was widely felt owing to his high international reputation. When he entered the subject the standard of work was very low and no serious attempt was being made to obtain reproducible quantitative results of known significance. Dr. Tattersfield insisted on the importance of precise quantitative data where the factors known to influence the results were standardized, so far as possible, and where both the design of the experiment and the results would satisfy accepted statistical criteria. In doing this he set standards which, over the course of years, have been accepted to the inestimable benefit of the subject.

Dr. Tattersfield was always a source of inspiration to his colleagues, to whom he was unfailingly kind and helpful. His justly acquired high reputation never changed his modest and unassuming personality, and his death will leave many of us with a deep sense of personal loss. He leaves a widow and one son.

C. Potter

Dr. G. K. Groetzinger

Dr. Gerhart K. Groetzinger, a principal scientist at the RIAS Division of the Martin Company, Baltimore, died on March 30 at the age of fifty-one. Born in Vienna, Austria, he received his doctorate in physics from the University of Vienna in 1931 and was a member of the faculty there before going to the United States in 1938.

Dr. Groetzinger has been associated as a faculty member, research worker and consultant with the University of Illinois, Ohio State University, the Enrico Fermi Institute for Nuclear Studies at the University of Chicago, the Lewis Laboratory of the National Advisory Committee on Aeronautics, and the Los Alamos Laboratory of the Atomic Energy Commission. Dr. Groetzinger joined RIAS in January 1956, and his work there since then had dealt primarily with solid state physics and cosmic-ray experiments performed in Earth satellites and high-altitude balloons. His work included some of the pioneer investigations of such fields as magneto-photoelectric effects in semi-conductors and the nuclear interactions of mu mesons.

Mr. H. Curtis

Mr. H. Curtis, production director of Leda Chemicals, Ltd., died on May 20 at the early age of thirty-nine.

Mr. Curtis graduated with honours at the Manchester College of Technology in 1941 in chemical engineering. After working during the War with chemical firms, he went to Sondes Place Research Institute in 1948 and in 1950 to Leda Chemicals, Ltd. He was appointed as a chemical engineer at a time when the firm was starting to manufacture fine chemicals. During his service with the firm, Mr. Curtis designed and constructed plant for the manufacture of quaternary ammonium compounds, cyanamide monomer and a range of other fine chemicals, notably rubber chemicals such as alkyl dithiocarbamates.

During the year 1953–54 Mr. Curtis went to Israel and worked on process development with Israel Mining Industries, Ltd. On returning he was elected a director of Leda Chemicals and its associated companies, Cunningham Smith, Ltd., and Lea Valley Chemicals, Ltd., becoming responsible for production and chemical engineering in these companies.