Richard Malcolm Lister, 1928 to 1998

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Professor Emeritus Richard M. Lister died 10 September 1998 in Yeovil, England, after a brief illness.

Richard was born on 14 November 1928 in Sheffield, England, and was educated there. He graduated with honors from the University of Sheffield and obtained a diploma in agricultural science from Cambridge University. He received training in tropical plant agriculture at the Imperial College of Tropical Agriculture in Trinidad, British West Indies. Following this, Richard worked on the cocoa swollen shoot disease in West Africa for 4 years as a plant pathologist with the West African Cocoa Research Institute. He then did research at the Scottish Horticultural Research Institute. In 1964, Richard earned a Ph.D. degree from the University of St. Andrews, St. Andrews, Fife, Scotland. In this work, Dr. Lister investigated the transmission of a group of polyhedral viruses through seed and by nematodes in strawberry.

During 1964, Dr. Lister spent a sabbatical year in the Department of Botany and Plant Pathology at Purdue University in West Lafayette, IN. In 1966, he accepted an appointment to the faculty in that department, where he continued to work until his retirement in 1994. Dr. Lister began his work at Purdue on viruses that infected apple. He succeeded in isolating and characterizing major groups of filamentous viruses in apple and other tree fruits. Dr. Lister was one of the early adopters of rapid serological methods for the detection of viruses in apples, which replaced the much slower and more tedious indexing techniques that were in common use. He also showed that tobacco streak virus consisted of particles of different sizes and showed how this information could be used to provide an important understanding of virus structure.

In the early 1960s, it was recognized that tobacco rattle virus produced both long and short particles in infected plants, but the significance of this phenomenon was not understood. Dr. Lister showed that if plants were inoculated with only the long particles, the RNA of the long particles was replicated but no coat protein was produced. Inoculations with only the short particles were never successful, but he showed that the presence of the short particles was necessary for the production of coat protein for particles of both sizes. In 1966, Dr. Lister hypothesized that the RNA of the short particles contained the information required for synthesis of coat protein but lacked the information required for infection. He validated this hypothesis in a series of experiments and laid the groundwork for recognition of the multicomponent phenomenon in plant viruses. This concept, now basic to considerations of divided genome viruses, is considered a major contribution to the field.

During the latter part of his career at Purdue, Dr. Lister was a leader in the application of enzyme-linked immunosorbent assay (ELISA) for the detection of plant viruses. He worked extensively on barley yellow dwarf virus and used ELISA to study the epidemiology of this important disease of small grain cereals and to characterize genetic resistance in these crops.

Dr. Lister taught plant virology at the graduate level for many years and attracted students from several disciplines. Initially, his teaching was part of a series of "methods" courses and consisted primarily of laboratory exercises as the basis of learning. As the science of plant virology blossomed during the past 30 years, this course was greatly expanded to include both lectures and laboratory experience. Dr. Lister was an effective teacher with a gift for providing clear and concise explanations of plant viruses and the diseases they cause. Dr. Lister served as the major professor for more than 35 graduate students, from both the United States and other countries. In addition, during his career, he served as the mentor of numerous young researchers at the postdoctoral level of training. Dr. Lister was the author of more than 100 research papers as well as numerous reviews and book chapters that covered a variety of subjects in the field of plant virology.

Dr. Lister was a member of The American Phytopathological Society, and in 1973, was named a Fellow of the Society. In 1986, he received the Society's prestigious Ruth Allen Award for outstanding contributions to the science of plant pathology. Among many other positions, Dr. Lister also was a member of the editorial committee for the *Annual Review of Phytopathology* (1975–1979), a council member for the Association of Applied Biology (1962–1964), a member and chairman of The American Phytopathological Society Plant Virus Committee (1971–1975), chairman for the Luteovirus Working Group (1988), associate editor for the *Journal of General Virology* and *Virology* (1979–1983), and senior editor for *Phytopathology* (1976–1977).

Richard was an avid gardener. A few years before his retirement from Purdue, he and his wife bought a home with a large, wooded yard west of the Purdue campus. He spent many hours creating a delightful garden, and he enjoyed discussing gardening with colleagues and friends. Richard was especially fond of daylilies and made numerous crosses and selections of these popular perennials.

Richard and his wife traveled a great deal after his retirement. Their trips included visits to children and grandchildren and "overwintering" in the Tucson, AZ, area during the past few winters. During the summer of 1998, the Listers arranged an extended vacation in England. It was during this visit that Richard was unexpectedly stricken with an aneurysm, which proved fatal.

Surviving are his wife, Jean; son, John Lister of Chicago; daughters, Rosalind Lister of Ellensburg, WA, Susan Madhavan of Morgantown, WV, and Christina Sanford of Reston, VA; brothers, Wilfred Lister and Brian Lister; and four grandsons.