

Randall Knight Cole

September 21, 1912 — January 26, 2006

Dr. R.K. Cole was better known as Randy to his faculty colleagues, friends and almost the entire poultry industry. He was a world-renowned poultry scientist who made major contributions to avian genetics and avian disease research. He was a consummate instructor and a valued collaborator and adviser to his colleagues at Cornell and throughout the poultry world.

Professor Cole was born in Putnam, Connecticut on September 21, 1912. During his adolescence, his family moved to Massachusetts where he furthered his earlier interest in poultry by working on a local poultry farm and joining the local 4-H Club. This led eventually to his decision to major in Poultry Husbandry at the Massachusetts Agricultural College at Amherst. After graduation, he was appointed as a Research Assistant in the avian pathology laboratory at the University of Connecticut. Here his lifelong interest in poultry diseases was stimulated by Dr. Erwin Jungherr. In 1935, he was recruited to Cornell by Professor F.B. Hutt. Here he served as an Instructor while earning his M.S. and Ph.D. degrees in Animal Genetics. He was appointed in 1939 as an Assistant Professor and eventually in 1950, as Professor of Animal Breeding and Poultry Husbandry. He retired in 1973 and became Emeritus Professor of Genetics. Professor Cole continued to maintain an office in the Department of Poultry and Avian Sciences until 1996 when he was transferred to the Department of Avian Diseases, later part of the Department of Microbiology and Immunology in the College of Veterinary Medicine. During his retirement, he continued to write and interact with the faculty and other poultry research and genetic colleagues. In fact, he continued to work until mid-2005 when forced to finally really retire because of failing physical health. During World War II, he served in the Army, reaching the rank of Lieutenant Colonel.

Professor Cole's major contributions to science were associated with the role of genetics in disease resistance and susceptibility. His guide and collaborator in this field was Professor F.B. Hutt. Together they developed genetic lines of chickens susceptible and resistant to leucosis. In turn, these chicken lines made possible the experimental transmission of avian leucosis and proof of its viral etiology. Later Professor Cole showed that it was possible by selective breeding to develop further susceptible and genetic stock starting from a single poultry population. These stocks, together with some of the earlier selected genetic lines, were used widely by avian disease research groups here at Cornell and elsewhere. As a result, the nature of Marek's disease and avian leucosis was recognized, and studies led toward their diagnosis and prevention by vaccination or other procedures.

Another long-term area of interest for Dr. Cole was the study of embryonic lethals and other genetic anomalies. From one of his early papers in 1939 on an autosomal lethal in the fowl until his last published paper (2000), an autosomal dwarfism in the domestic fowl, he maintained his interest in this branch of genetics. Probably the most significant result of these studies was the development of the obese strain of chickens by pedigree mating from three chickens that were observed with this abnormality in one of the Cornell breeding flocks. This was described as hereditary hypothyroidism and later recognized to be similar to Hashimoto disease, a human autoimmune thyroiditis. These birds became a valuable animal model for the study of spontaneous autoimmune thyroiditis as well as autoimmune disorders in general.

Dr. Cole was not only a basic scientist; he was interested in the practical application of his studies. This was demonstrated in a lengthy review article in 1973 in which methods of breeding for maximum production of eggs are given, along with supporting evidence of the efficacy of those methods. Further, acting as a consultant to Shaver Poultry Breeding Farms, he played a major role in producing one of the most successful commercial laying chickens by instituting pedigree breeding and selection programs based on his previous research experience.

Professor Cole had other activities during his Cornell career. He was responsible for post-mortem examination of mortality from the University poultry flocks and many of the birds from various research projects carried out in his department. He was thus able to maintain his early interest in avian pathology and also made observations leading to many publications of genetic and pathologic interest.

Finally, Professor Cole taught courses in genetics of the fowl and avian anatomy and participated in teaching of the introductory course in poultry diseases.

Three children, two sons and a daughter, Mary C. Smith, who is an Associate Professor at the Cornell Veterinary College, survive him.

Richard Austic, Rodney Dietert, Julius Fabricant