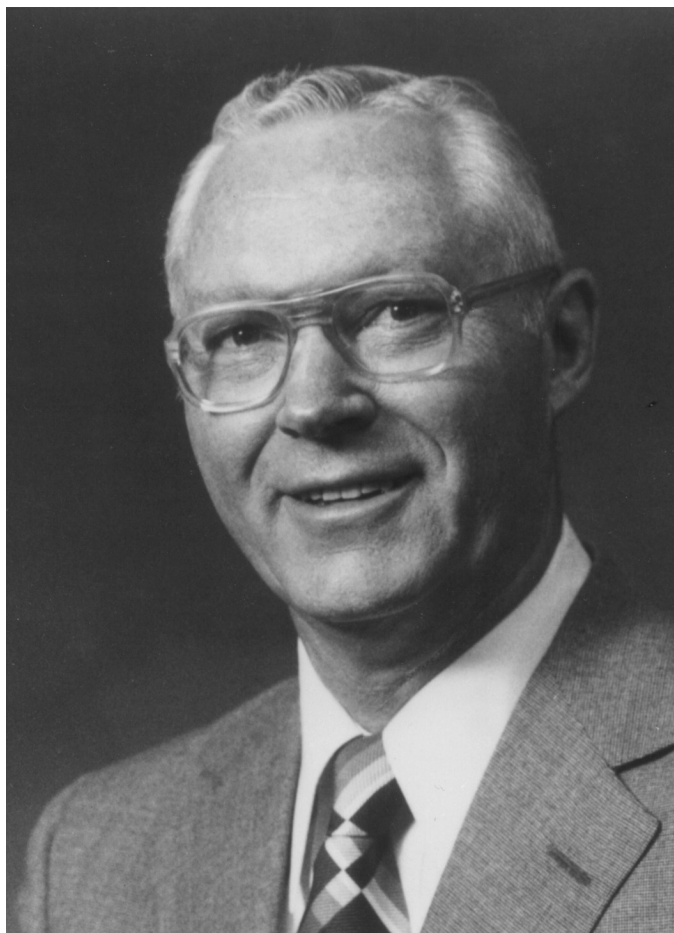


James Edward (Ed) Legates, 1922 to 1998: A Brief Biography

B. T. McDaniel

North Carolina State University, Raleigh



James Edward (Ed) Legates was born near Milford, Delaware, in 1922 and died in February 1998 while working on the dairy farm that he had established after he retired. He earned a B.S. degree from the University of Delaware in 1944, and the M.S. and Ph.D. degrees from Iowa State University in 1947 and 1949, respectively. He married Pearl Elizabeth Derrickson in 1944. They had a daughter and three sons.

Legates joined the faculty of the Animal Science Department of North Carolina State College in 1949 and remained there until his retirement in 1986. He was Dean of the School of Agriculture and Life Sciences (later named College of Agriculture and Life Sciences) from 1971 until 1986, longer than all but one previous dean. As Dean, he enhanced the status of the college,

worked to get land for university research stations and farms, and integrated extension functions closer with the rest of the college.

Legates' main research interests were the inheritance of important traits in livestock, particularly of Holsteins and other dairy breeds, and the effects of genetics and selection in mammals. He started a selection experiment in state-owned Holstein herds in 1950 and continued it for a few years after he became Dean. To accomplish this, he initiated a program of identifying the most promising young bulls, bred these to enough cows in the herds to obtain a sufficient number of daughters, and then returned the best sires based on the progeny test for use in the state-owned herds. The results contributed to the almost uniform use of such a method as the main selection procedure for production and other traits in dairy populations worldwide.

Other early dairy-oriented research involved the inheritance of resistance to mastitis, sire \times region interaction, inheritance of udder morphology, and inheritance of variation in reproductive traits of Holsteins. Later, he initiated an unselected control herd to verify genetic changes in response to selection in the state-owned herds. During the 1960s, Legates' research focused on the genetics of milk components, genetic improvements in various subpopulations of Holsteins, milking rates, and body size.

Another research area he established at NCSU was use of the mouse as a biological model for selection. The approach involved starting multiple selection lines in a diverse mouse population. The purpose was to determine the response to various selection strategies in an animal species more suitable than cattle to test theoretical and actual genetic changes.

Legates established the Animal Breeding Section in the Animal Science Department at North Carolina State University. This unit combined animal inheritance and reproduction. As leader of this group, he recruited a group of faculty that has gained worldwide recognition for expertise in experimental genetics and reproduction in livestock and other populations.

Recognition by peers led to many awards, including the Borden Award from the American Dairy Science Association and the J. L. Lush Animal Breeding Award from the American Society of Animal Science. Early in his career, he was named a William Neal Reynolds Professor at North Carolina State University, a high honor that was based on peer evaluation.

Legates taught at all levels at the N.C. State, from the two-year Agricultural Institute to graduate students at

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the Ph.D. level. He was an effective, patient teacher, but he was demanding of his students, especially those at the graduate level. He served as the major professor for 19 doctoral students. About half of these and another half dozen obtained their M.S. degrees under his direction.

As many undergraduate students in later years had little farm experience, he added a tribolium selection project to his undergraduate course in order to give the students an understanding of average genetic response to selection, and variation thereof. Earlier in his teaching, he started a study tour to NC dairy farms for undergraduate students.

Emphasis on the education of extension specialists, personnel from breed associations and artificial insemination organizations, and dairy producers of the value of genetics and selection was another priority of Legates. He spent many years as advisor of the Board of Directors of the Holstein Association and wrote articles intended for lay audiences. He was a frequent invited speaker to artificial insemination units, state dairy meetings, and various other lay organizations.

As students traveled with him, he volunteered many times that North Carolina farmers should replace tobacco with livestock as an income generator.

Legates was actively involved in the Methodist church all his life.