

FREDERICK BRUCE HUTT
PhD, DSc (Edin), MS (Wisc), MA (Manitoba), BSA (Guelph), DSc *hc*, (Guelph, Brno),
Hon FRSE

Frederick Hutt was born in Guelph, Canada on 20th August 1897 and died on 6th September 1991 shortly after his 94th birthday. He was a Canadian citizen of Scottish descent whose long and illustrious career was set off by a fortunate present when he was a schoolboy helping his father on the family farm. This gift was a 'setting' hen and a clutch of eggs for her to hatch. The young Hutt's enthusiasm was so great that he was soon breeding Barred Plymouth Rocks for sale as ready-to-lay pullets with a view to helping to pay for his college education. He became a student of Professor W G Graham, who had made the stimulating gift, and earned a BSA degree at the Agricultural college of Guelph in 1923. This was followed rapidly by an MS degree in genetics at the University of Wisconsin in 1925 and an MA at the University of Manitoba in 1927, where he became a lecturer in animal husbandry.

The book *Animal Genetics* (1925) by FAE Crew led Hutt to the University of Edinburgh, where he took a PhD degree under Crew's guidance in 1929 and strengthened his Scottish ties. He then moved to the University of Minnesota as Professor of Poultry Husbandry and Genetics, in 1931, and was elected as the youngest ever President of the Poultry Science Association for its meeting in 1932. He moved to Cornell to become Chairman of the Department of Animal Husbandry from 1934 to 1940, and Chairman of the Department of Zoology from 1940 to 1944, after which he returned to full-time teaching and research, without administrative responsibilities, as Professor of Animal Genetics at Cornell, until he retired to become Emeritus professor of Animal Genetics in 1964. This rapid progress reflects the recognition of his outstanding abilities as organiser and administrator, as well as in research and teaching.

In 1949 his book *Genetics of the Fowl* was published by McGraw Hill. This book has been well described as the 'Bible' of all those interested in poultry science, and indeed it remained the standard textbook in the field until 1991, when it was superseded by *Poultry Breeding and Genetics* (Elsevier), a multi-author book edited by Dr Roy Crawford, who took over Hutt's role as the leading figure in poultry research. Hutt wrote the Preface to this book, having convinced the Poultry Science Association as early as 1985 that the enormous amount of new information in the field of poultry genetics should be organised and made available, in the same way as he had done in 1949.

Fred Hutt made a large number of important contributions to poultry genetics and biology in more than 200 scientific papers. In 1940 he and W Lamoreux created the first chromosome map of the fowl. Hutt carried out many detailed studies of important traits expressed by some or all chickens. Involved were traits affecting structure, distribution and colour of feathers, anatomical structures such as comb, uropygial gland, spurs, thyroid and skeleton, and lethal genes and genetic defects. He also discovered the sex-linked gene for hereditary dwarfism (*dw*), which is first recorded in his textbook on poultry genetics. This gene has more recently become of value throughout the world in the production of economically efficient mothers of broiler chicks.

Hutt had a major interest in the role of heredity in resistance to diseases of various types including that due to *Salmonella pullorum*, and especially lymphomatosis (now known as two different diseases, Mareks and leucosis) and the last paper in a long series in this problem: F B Hutt and R D Crawford (1960) on 'Breeding chicks resistant to hullorum disease without exposure thereto', helped Hutt to win the Tom Newman award.

Hutt demonstrated convincingly that viability could be improved by using the progeny test as a means of selection of potential breeders, and that it could be combined with simultaneous selection for improvement in economic traits. He advanced new concepts for breeding a well-balanced layer, such as measuring egg production to a given age (500 days) rather than for 365 days after the first egg. He also showed that hybrid vigour could be maintained and even improved by selection for economic traits within the non-inbred parent stocks.

Frederick Hutt was fiercely proud of his Scottish ancestry and of his DSc from the University of Edinburgh in 1939. Of his many awards for his contributions to poultry genetics he was most proud of the Honorary Fellowship of the Royal Society of Edinburgh in 1975, election to the American Poultry Hall of Fame (1980) and the International Poultry Hall of Fame (1988), and the award of Honorary Doctor of Science degrees from the University of Guelph in 1974. He remained very active intellectually, with world-wide correspondence, until almost the end of his long life. He is survived by two sons, Bruce and Robert, a daughter, Margaret, 13 grandchildren and 12 great-grandchildren.

It is perhaps ironic that his close pre-war connection with the Institute of Animal Genetics at the University of Edinburgh was not maintained after the war because poultry genetics became completely separated from the mainstream of genetical research in Edinburgh - both applied and experimental - under a different Research Council umbrella. Hutt had little interest in and

I am indebted to Dr Roy Crawford for his personal reminiscences and appreciation of Fred understanding of population genetics, and fought a life-long war with those who relied on mathematics and statistics to interpret bird performance while, he claimed, largely ignoring biology. So visits to his much-loved Scotland, and particularly Edinburgh, would have led to stimulating arguments of mutual benefit. Hutt's career, and to Mrs Margaret Neff, Hutt's daughter, for copies of memoirs written by herself and Dr Randall K Cole.

ERIC REEVE