

caseinate promotes intermolecular protein interactions and so gelation by removing water from the protein backbone allowing easier protein-protein interactions.

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AS Foot CBE. MSc – Obituary.

20th January 1909–2nd March 2003

Arthur Samson Foot was born on the family dairy farm in South Dorset, where he gained practical farming and management skills. Much in his career has shown the importance of this background. He always strived to relate his science to practice. He was proud of his roots, and seldom happier than when on a farm.

He was among the first students to receive the BSc degree in agriculture from the University of Reading in 1930. After graduating he took a research assistant post at The National Institute for Research in Dairying. By 1935 Foot had published 5 papers on pig nutrition or husbandry, and one of particular significance on the rate of milking by machine. He received the degree of MSc in 1934.

Meanwhile, Maud Irvine came to Reading to study for the Diploma in Dairying. In 1936 she and two friends decided to form the first ladies team to enter the university's stock judging competition. Coached by Foot, the girls won the Cup: their coach eventually won Maud.

Sam Foot was appointed Head of the restructured Dairy Husbandry Department in 1946. The need for more and better cows, in order to apply statistical methods to experimentation, had long been recognised. Foot led the case for the expansion of the Institute's land and cattle. The purchase of Arborfield Hall Farm in 1947, and the later acquisition of Parrot Farm and Carters Hill, increased the acreage to 1110 by 1971. By 1978 there were 468 Friesian cows, and their followers. Facilities were expanded and the way was paved for the construction later of the Bernard Weitz Centre. These resources allowed significantly meaningful numbers of cows to be used in experiments ranging from extensive feeding trials to detailed investigations into the physiology and metabolism of dairy cows, or the aetiology of mastitis. Foot's vision foresaw the need for this expansion, and his successful planning enabled his colleagues to carry out some of the

most comprehensive work ever undertaken in their respective fields. A far cry from 1945 when it was difficult to assemble eighteen cows for a four-month feeding trial.

Sam initiated research on many topics. These included feed for dairy cows from silage, crop drying, kale, new forage species and varieties, and systems of grazing management. Above all, he was justifiably proud that his pre-war milking machine work was the progenitor, through the collaboration of Frank Dodd, Frank Neave, Cliff Thiel and their colleagues, of the most far reaching investigations ever conducted into machine milking and udder disease. The results obtained provided dairy farmers world-wide with enormous savings. No Dorset farmer's son could wish for more.

In 1965 Sam Foot became Deputy Director of the Institute, and he was appointed CBE in 1972. He retired in September 1974. When the Institute closed in 1985 he was deeply saddened by the abandonment of so much he had worked to create. It was a consolation that the University of Reading successfully established CEDAR (the Centre for Dairy Research) at Arborfield.

As Head of Department and Deputy Director Sam Foot was noted for his calm consideration of problems, sound judgement and sage advice. None can remember him showing anger, but his disapproval could be clearly evident, and was usually justified. He was both friend and valued colleague to many.

In the life of the Institute and University and among a wide circle of friends Sam and Maud played a leading role. In retirement, he continued to take a close interest in his brother's, and more recently his nephew's farming. He so much enjoyed his last visit to Dorset.

A succession of health problems afflicted Sam in the 1990's. His courage, and Maud's heroic support in bringing him through to old age, rather bent but with his sharp mind and humour intact, have been an inspiration.

Clive C Balch and Roger Kingwill, July 2003