

## ELECTION OF HONORARY LIFE MEMBER

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Ian Campbell came to Massey in 1933 after studying for his Agricultural Intermediate at Victoria. He chose Agriculture because of an interest in the outdoors, whetted by school holidays spent on a variety of farms. He completed the B.Agr.Sc. degree in 1936, graduating in 1937 with a University Senior Scholarship which he declined. He joined the staff of the Dairy Research Institute as Officer in Charge of the Dairy Husbandry Section. This section had been established by Professor W. Riddett who saw the need for information relevant to New Zealand Dairy Production. The work of the section, in which staff of Grasslands Division, D.S.I.R. were also involved, was concerned with relationships between pastures and crops used for dairy cattle and the yield, composition and manufacturing qualities of milk. It developed to include studies of the effects of underfeeding dairy cows at different stages of the lactation cycle.



While the experiments provided information of the effects on milk of different treatments applied to the cows, a gap in understanding was left with respect to the mechanisms by which the effects were produced. A study of physiology of milk secretion was required, and no one in New Zealand at that time was in a position to undertake such work. However, papers in scientific journals showed that the Dairy Husbandry Department at the University of Missouri was a leading centre for lactation physiology studies, with Dr C. W. Turner playing a major role. In addition, the Animal Science group at Missouri included Dr Samuel Brody of "Bioenergetics and Growth" fame, Dr A. G. Hogan in nutrition and Dr F. F. McKenzie in reproduction. The good impression gained from reading their published work was confirmed by Dr C. P. McMeekan who had visited the University.

Encouraged by Prof. Riddett, Ian Campbell went, in 1939, to Missouri to do his Ph.D., his thesis work being a study of the parathyroid gland. The choice was made because of the importance of calcium in milk, the possibility that the parathyroid was involved in metabolic disorders such as milk fever, and the involvement of nutritional factors in calcium metabolism.

In the light of present knowledge it was a rather tough assignment, particularly as the first question investigated was whether the anterior pituitary controlled the parathyroid. Ian found no evidence that it did and no one in the intervening 40 years or so has disagreed with that. The course work undertaken as part of his Ph.D. programme included the physiologies underlying animal production, reproduction, lactation and growth which provided a valuable basis for later teaching at Massey.

On his return to the D.R.I. in 1943, Ian was again involved with dairy cow nutrition work, mainly concerned with the effects of periods of underfeeding and a good liaison was maintained with Dr McMeekan and Mr T. Lees who were doing parallel experiments at Ruakura. A series of calf feeding experiments also continued work started earlier.

New studies included accumulation of basic information about New Zealand dairy cattle, to allow means and variances to be estimated for animals of different breed, age and sex. To some this might seem unexciting, but if, for instance, you would like to know if the thyroids of some Jersey heifer calves, 6 months of age, are abnormally large, so indicating iodine deficiency or the presence of a goitrogen, it is essential to have such data. Another new line of work involved induction of lactation and stimulation of lactation in dairy cows. The then recent availability of synthetic oestrogens and of knowledge of a method for making iodinated casein, which stimulated lactation in a manner similar to thyroxine, were the starting points for experiments by Ian Campbell and Murray Hollard, a graduate student. Similar work was in progress in England. It is a pity that this New Zealand work was not published fully as the numbers of animals were higher than in some overseas studies and the results fully comparable. The seasonal nature of New Zealand dairy production, with the consequent loss involved with dry or late calving cows still, as we have heard at this conference, makes successful induction of lactation an attractive goal. A further new study was made of the relative accuracies of different methods of herd testing. The old Certificate of Record method beloved by many pedigree breeders was shown to be so little better than the standard monthly testing that extra cost and trouble of daily milk weighing were not worthwhile.

Reports from Sweden in the late 1940s of the use of monozygous twin cattle for experimental work set off a search for such animals in New Zealand. Dr Dry was involved and Mr John Hancock played a leading part. Ian Campbell was in the hunt too and established the monozygous twin herd for the D.R.I. Because the work involved a lot of laboratory analyses and it was important to have animals very similar in the way their milk component levels changed during lactation. The monozygous twins have proved invaluable in the D.R.I. (later Massey) experimental dairy herd.

Features of Ian Campbell's experimental work were careful planning and execution, combined with meticulous record keeping. With the encouragement of Mr I. Dick, Head of the Applied Maths Section of D.R.I., experimental designs were discussed with statisticians, data punched on cards and taken to the Applied Maths Laboratory for processing and analysis. Mr Dick wrote a paper on analysis of data for monozygous twin experiments, including incomplete balanced block designs, and another, based on D.R.I. herd data, on variation in herd average yields.

In 1948, Ian Campbell was appointed to the Chair of Dairy Husbandry of Massey University. The change in his contribution to animal production was quantitative rather than qualitative, because while he was with the D.R.I. he had taken undergraduate and graduate classes, and as Professor of Dairy Husbandry, he continued research with dairy cattle, notably on the water intake of cows, effects of restricted grazing and adrenocorticotrophin, working with other members of the Dairy Husbandry Department.

His main efforts went into developing the courses in various aspects of animal production. His knowledge of the underlying physiologies and appreciation of the practical New Zealand scene enabled him to develop appropriate courses in nutrition, reproduction, lactation and growth. As new staff members with some specialist training were appointed, he handed over sections of teaching to them, retaining as his main contribution the important central subject of nutrition.

Looking back one can see that Ian Campbell unselfishly gave to others areas of work which could well have been his own main interests and fitted his teaching to the

greatest needs of the Department. He and Professor A. L. Rae were between them responsible for a great boost in the quality and extent of animal production teaching in the post-war years. This has been carried on and we now have a very effective set of courses involving choices for students in the 4th year of the B.Agr.Sci. degree given by the Dairy and Sheep Husbandry staffs.

During Ian Campbell's term as Head of Department facilities for animal production teaching and research were improved tremendously, notably with the setting up of No 3 Dairy Unit, the Animal Physiology Unit and the Research Piggery.

When Ian Campbell became Dean of Agriculture in 1962 his widened responsibilities decreased the attention he could give to animal production teaching and research but did not extinguish it. He retained the important responsibility of putting the cases for staff members needs in animal production teaching and research to the University Council and funding bodies outside the University. He could be relied on to do his homework thoroughly and see that we did ours.

Some measure of the effect of Ian Campbell's contribution to education in animal production may be gained from listing some of the people holding important positions at present or in the recent past who were his students.

Drs. J. B. Hutton, A. Kirton, A. M. Bryant, Messrs J. D. Scott and the late G. K. Hight of the Ministry of Agriculture.

Drs J. M. Ulyatt and J. D. Kerr of D.S.I.R.

Messrs J. B. Stichbury, H. Clifford and S. A. McKenzie of the Dairy Board, Farm Production Division.

Professor K. O'Connor and Mr G. Hollard of Lincoln.

Professors Fielden and Frampton who are both Deans of Faculties.

Professors Flux and Munford, Drs. A. W. F. Davey and W. C. Smith, Mr M. R. M. Patchell, Heads of Departments or Research Units at Massey.

In Australia, ex students include Dr T. Edey at Armidale, and Dr J. Corbett of CSIRO as well as a number of dairy industry administrators and one headmaster, Ivo Dean.

As Dean of Agriculture and Horticulture one of his major tasks was to plan the new Agriculture and Horticulture Faculty Building and keep an eye on it as it was built. This has given the departments concerned with animal production, as well as the remainder of the Faculty, greatly improved facilities particularly with respect to laboratory space. As foundation Dean he got the Faculty off to a very good start.

He has been a committee member and President of the Animal Production Society and the Dairy Science Society, and was for many years a member of the Standing Advisory Committee of the Herd Improvement Council.

In summary, Ian Campbell has made contributions to animal production in New Zealand over a long period, starting with meticulous experimental work and new soundly based courses in the early post-war years, when his example was particularly valuable, continuing with a change of emphasis, teaching at all levels from graduate to sub-degree levels becoming more important, then to an increasing extent becoming a knowledgeable administrator, concerned with organising teaching and research people and facilities so that others could work effectively. He has taken his share of the work of relevant scientific bodies.

In all that he did he has shown a thoroughness and selflessness which has been an example to all who know him. It is very appropriate that he be elected an Honorary Life Member of the N.Z. Society of Animal Production.

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