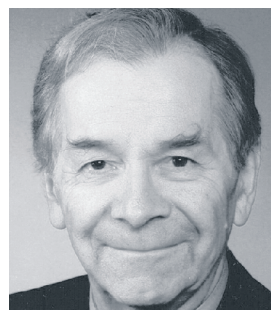


Kalle Maijala

* 26/5/1927 † 4/3/2016



PROFESSOR KALLE MAIJALA (born 26th May 1927, died 4th March 2016) was an eminent scientist in the field of animal breeding, with a distinguished research career spanning from the mid-1950's to his retirement in 1990, and in many respect beyond, as reflected in over 600 papers on both research topics and applications. He was born at Kangasala, close to Tampere, and grew up on a farm with four other children. His sturdy father kept him occupied in strenuous farm work, allowing him occasional trips to the Finnhorse fairs. There he carefully watched the judging of foals, and the easygoing bustle of such occasions became etched in the young boy's mind, leading him to develop an interest in college or even university studies in animal breeding.

He graduated from the University of Helsinki with an MSc thesis on the persistency of milk production in dairy cattle and started his career in the Finnish Ayrshire Society in 1954, before moving to MTT Agrifood Research Finland (now part of the Natural Resources Institute Finland) the following year. He had another spell in industry, as general manager of the Association of AI Societies in 1961-63, before returning to research, where he served

with distinction in professorships at MTT in 1968-76 and 1980-87, at the University of Helsinki in 1976-80 and with the Academy of Finland in 1987-90. Professor Maijala was invited to membership of the Finnish Academy of Science and Letters in 1974.

As a junior scientist he first studied small animal species, the chicken and the sheep, before moving on to dairy cattle for his PhD thesis, completed in 1964, on their genetic variation and the selection of reproduction traits. The variation in these traits was found to depend almost inevitably on a large set of genes and external factors, so that an understanding of the quantitative variability would involve a combination of data collection from farms, selection experiments, statistical analyses and mathematical modelling of genes and their effects in populations, together with environmental factors. The artificial insemination organizations had initiated a recording scheme for these traits, and Kalle pioneered the use of the resulting data for genetic analyses.

Molecular genetics has opened up new pastures and fields for animal breeding and a solid base has been found in quantitative genetics by virtue of genetic mapping technology and the advent of whole

genome sequences. This development has been critically dependent on the knowledge base laid down by Kalle's generation of animal breeders and quantitative geneticists. His seminal study of cattle fertility encountered challenges in finding good data, appropriate statistical methods and sufficient computing capacity, and his pioneering actions in purchasing more powerful and more sophisticated computer technology are legendary within MTT. His early study of low-heritability reproduction traits paved the way to the challenging process of selecting for health traits, the practices for recording which were heroically initiated in Norway and soon followed in Finland through fertile collaboration between breeders and veterinarians.

Kalle's scientific patron was Ivar Johansson, professor of animal breeding in Uppsala in 1933-58. Johansson was a very important figure in identifying Kalle's research talents, guiding him into science and then introducing him to the best research groups, such as those in Iowa and Edinburgh. Young animal breeders nowadays are apt to count how many generations there are between them and Professor Jay L. Lush. Kalle was a pupil of Lush's, as he paid a four-month visit to Iowa in 1960-61. Other important foreign colleagues have been Jan Rendel of Uppsala University and the FAO, and Harald Skjervold in Ås. These contacts and the good quality of the collaborative research generated many international duties, the most important of which were his work in Nordic organizations and his presidency of the Genetics Commission and chairmanship of the working group for animal genetic resources at EAAP.

Kalle made some very influential contributions to our understanding of breed-

ing objectives. In 1976 he laid down a useful framework for analysing the long-term goals of animal breeding based on the potential for domestic feed production and the requirement of satisfying the basic nutritional demands of consumers. He considered 'biological efficiency – especially in protein production – to be the main aim in animal production' and raised doubts about the use of often uncertain economic factors in long-term analyses. Thus, 'milk production is the most effective way of producing animal protein', mainly due to the ability to convert grass to milk protein. The work also clearly showed the caveats in the efficiency of the animal product supply chain. In addition to his purely scientific work, he made many important contributions through the application of his research findings to animal improvement. These have had a lasting impact on the Finnish animal breeding industry. He received awards from both breeding and artificial insemination organizations in recognition of his work.

Kalle never hesitated about getting involved. His tea-time chats in Edinburgh triggered worldwide interest in the prolific Finnsheep, and his concern about the fate of the native Finnish cattle breeds quickly took him onto European, Nordic and Finnish committees promoting genetic diversity in farm animal species, well before any awareness had developed of the related risks entailed in selection programmes for the mainstream breeds. Kalle was a strong supporter of high milk consumption and took an active interest in the achievements of milk fat research. His participation in the Finnish Workhorse Society closed the circle that had begun in his childhood through his father's keen interest in horse breeding. Kalle's last duty

was to defend the pig producers' views on breeding policies in the face of the conflicting interest of the industry in maximizing its short-term profits.

He always had clear views on research policies and was able to express his thoughts in comprehensible language, compressing the premises, analyses, associations and conclusions all into one sentence. In hindsight, we now understand why Kalle was so reluctant in the late 1970's to move the flourishing animal breeding research to Jokioinen, away from the vicinity of its partners in research and industry in the Helsinki area. The result was that the research group was left to wander, and it was some years before its output matched up to its earlier accomplishments.

One outstanding feature of Kalle's approach to science was his scholarly attitude. Starting out from a concrete topic, he would collect earlier findings, order them and boil them down into just a few key issues. The outcome was that he was able to produce extensive reviews of heritabilities and correlations in dairy cattle, possibilities for improving fertility traits, Finnsheep, genetic diversity and the properties of dairy milk components.

After his formal retirement at the age of 63 he continued to play an active role in research and discussions on animal breeding and related fields. I recall a few years back a visit to Kalle and his wife Kirsti at their summer cottage in Kangasala, close to Kalle's childhood district. When I got up quite early in the morning, I found him sitting on the swing on his lawn surrounded by heaps of papers over which he had been brooding for quite some time. These were almost certainly papers on milk fatty acids, his favourite topic at that time.

His mother would intersperse the daily farm life with gentle singing. Kalle's colleagues and friends recognized and enjoyed the steady legacy and heartfelt gifts from his childhood. During his last two years Kalle suffered from severe Parkinson's symptoms and was warmly cherished by Kirsti.

The Finnish Cultural Foundation awarded Kalle a grant for writing his memoirs, a lively excursion through his childhood and life's work in great detail. This same foundation now administers the Kalle Majjala Fund, initiated in accordance with his last will and testament.

*Obituary by
Asko Mäki-Tanila*