

HONORARY LIFE MEMBERSHIP

Geoffrey B Nicoll

B.Agr.Sc.(Massey), M.Agr.Sc.(Massey), Ph.D.(National University of Ireland)

Geoffrey Blair Nicoll has made a major contribution to New Zealand agriculture through a lifetime overseeing the development of breeding programmes for sheep, beef cattle, deer and goats to achieve improved performance in a commercial environment. The animals with which he has worked have been located throughout New Zealand on large farms. Initially the farms were managed by the New Zealand Government's Lands and Survey Department before the Department became Landcorp Farming Ltd when it was restructured into a State Owned Enterprise in 1987. Subsequently the breeding and research group at Landcorp Farming Ltd was combined with Rissington Breedline Ltd to form Focus Genetics LP further expanding the number of stock within Geoff's breeding programmes.

Geoff grew up in Palmerston North, studying for a Bachelor and a Master of Agricultural Science, with First Class Honours in genetics and animal breeding, at Massey University. In 1981 he completed a Ph.D. at the National University of Ireland in Dublin studying beef cow nutrition. Geoff then returned to New Zealand to work as a scientist at the Department of Agriculture, Whatawhata Hill Country Research Station near Hamilton. In 1982 he was seconded to the Lands and Survey Department as a scientist in animal breeding and assumed national responsibility for all their sire breeding programmes.

On the basis of today's technologies the information transfer (IT) facilities available to Geoff in the Lands and Survey Department were slow, with the data being prone to corruption through human error while being inputted into the system. Geoff set out to address both these problems by developing software procedures for the direct capture of data in the field (1982 – 1987). In the 1990s he was instrumental in developing a comprehensive relational database, known as the Genetic Animal Recording System (GARS). With the development of email an ACCESS database, known as GYPSY, was developed to run on a laptop to record field data. This subsequently led to the development of a genetic evaluation system, preceding that currently used by Sheep Improvement Ltd. (SIL) that was based on best linear unbiased predictions (BLUP) to run alongside GARS. This improved analysis system enabled Geoff to estimate breeding values relatively quickly to enable the selection of animals early in their productive life. In 2009 Geoff replaced this system with the more cost-effective and technically more efficient evaluation system currently used by SIL. In the late 1990s Geoff trialled and soon adopted DNA parentage testing for sheep using a blood sample taken at tailing. This



replaced the collection of detailed lambing information. DNA parentage was also incorporated into the beef cattle and deer recording programmes due to the difficulty of recording parentage at calving, and particularly at fawning. The next step was the introduction of electronic identification (EID) of individual animals into the breeding programmes.

Geoff's foresight also extended to breed development. In 1990 he developed a terminal sire breed, known as Landcorp Lamb Supreme, through screening approximately 500,000 young commercial Landcorp ewes for yearling live weight. The best animals were selected and joined to a mix of ram breeds identified for superior carcass traits. In a similar fashion Geoff developed a high-performing maternal breed with desirable carcass characteristics, the Landcorp Landmark. With an emphasis on increasing lean yield, Geoff and Landcorp, in partnership with AgResearch, introduced the use of computed tomography (CT) scanning into Landcorp's sheep breeding programmes and subsequently into the deer programmes. Geoff was also instrumental in the identification of the Carwell gene that was shown to be associated with increased loin area in sheep. This gene was commercialized as LoinMAX[®] with the gene identified by a DNA test.

The philosophy that Geoff used in the operation of the breeding programmes was that his work was an investment by Landcorp to improve their future income. While Geoff has been very successful in attaining this outcome, he is the first to admit that he could not have done it without the enormous contribution of the 'breeding programme' farm managers and their staff.

Data from the breeding programmes that Geoff oversaw have been used in numerous studies. To date Geoff has marked several theses and written at least 175 technical reports, scientific papers, conference papers and extension presentations.

Geoff has been a member of the New Zealand Society of Animal Production throughout his career being Secretary in 1984/85 and 1985/86, Vice President in 1993/94, President in 1994/95 and Past President in 1995/96. In 1999 he was awarded the Society's McMeekan Memorial Award.

It is in recognising Geoff's contribution to New Zealand agriculture through his foresight in animal breeding and his involvement in the affairs of the New Zealand Society of Animal Production that he is nominated for Honorary Life Membership of this Society.

John Rendel and Neville Jopson