

## CELEBRATING 50 YEARS SINCE THE ESTABLISHMENT OF THE BREED SOCIETY

**Cameron McMaster**

**SUMMARY.** A brief review of the beginnings of the Dohne Merino breed and the breeding and management principles that were established by its founder, Mr JJJ Kotzé, is followed by a description of the formation of the Dohne Merino Breed Society of South Africa in May 1966. I am privileged to have been continuously involved with the new breed from that time to the present day. In June 1970 I was appointed administrator of the young breed society, and part of the team responsible for the development and promotion of the Dohne Merino Breed. Reference is made to some of the persons and institutions who had a major influence on the systems that were developed by the young society. Tribute is paid to persons who contributed substantially to the growth of the breed. The expansion of the breed to other countries in the Southern Hemisphere is described and in conclusion an appeal is made to breeders, both current and future, to adhere to the fundamental breeding principles that led to the success of the Dohne Merino sheep breed.

**The start of the breeding programme.** The breeding programme was initiated at the Dohne Agricultural Research Institute in 1939. One of the goals set after the establishment of the research station at Dohne in 1937 was the development of a better adapted wool sheep breed for the harsh sourveld region of the Eastern Cape where the Merino was poorly adapted. The implementation and development of the programme was entirely due to the initiative and drive of Koot Kotzé, the director of the research station, who rightfully earned the title “Father of the Dohne”. Mr Kotzé was a brilliant and insightful scientist with a clear view of what was necessary to uplift the sheep breeding industry in the region. From the start he set the parameters that would be used and are still used to this day: Individual mating should take place, pedigrees and performance should be recorded, and sheep should run under identical conditions in a natural commercial environment. He defined the selection procedures that are followed to this day. These were very advanced requirements at this time (the early and mid 1940s) before there was a hint of performance recording in sheep breeding. By observing the most productive and best adapted sheep in each generation, Koot Kotzé himself defined the ideal breed type that would form the basis for selection. Over the years that followed, he imparted this image of breed-type and the practical application of the grading system to his colleagues and protégés, including myself, and these were later encapsulated in the breed standards and bye-laws when the Dohne Breed Society was formed.

The concept of a “new” locally adapted breed captured the imagination of some prominent sheep farmers in the area, who were enlisted as co-workers in the development of the new breed. His great friends Gerald Featherstone, Deemie and Jack Blaine offered their flocks to him and eventually became the first foundation studs - Waterford, Wauldby and Ross and the breed was poised to take off.

**The formation of the Dohne Merino Breed Society of South Africa.** The Society was launched at a meeting held at the Dohne Agricultural Research Institute near the town of Stutterheim in the Eastern Cape on 16 May 1966. It was well attended by over 50 persons of whom 39 were either already active breeders or potential breeders. I am possibly one of only three persons still living who were at that meeting. Our first President was Roelie le Roux of the Dirko stud, Somerset East, who served us with distinction for the first 10 years. Noel Geach, manager of the Waterford stud, was elected first secretary and member of the first Council, eventually becoming a Dohne assessor. At the end of the first year 36 Stud's were registered with a total of 2500 recorded ewes - small beginnings but with enormous promise.

**A new paradigm.** Having already embarked on a new trajectory, being innovators by inclination and unencumbered by the constraints of tradition, the small band of enthusiastic breeders who formed the Society in 1966 readily embraced new concepts being propagated at the time. Armed with a blueprint established by the founder of the breed, Koot Kotzé, they keenly accepted and applied the modern breeding and selection principles being introduced to the ram breeding industry. After the establishment of the South African Fleece Testing Centre in 1970, the Department launched a series of performance testing courses for ram breeders where the principles of population genetics, the setting of breeding goals and selection strategies were explained by Dr Almero de Lange, a geneticist attached to the department, who had the unique ability to inspire and motivate his students. All aspirant and open-minded Dohne breeders who attended these courses were motivated to adopt measurement and the new selection and management programmes this entailed.

We established contact with sheep breeders and animal scientists in Australia and New Zealand. There was a wealth of new information available at the time. We drew heavily from books such as "Science and the Merino Breeder" by Dun and Easto and "Breeding Merinos" by Scott Dolling, both published in 1970, which explained how sheep breeders could employ proven genetic principles to obtain worthwhile improvements in the Australian Merino. We even borrowed heavily from the logical and practical principles set out in the "Lasater Philosophy of Cattle Breeding". His statement *Females are the basic business of livestock breeding* struck a chord with us. Selecting rams that were the progeny of highly productive and fertile ewes became standard practice.

Consequently when innovators in Australia and New Zealand introduced the system of Open Nucleus Breeding, we enthusiastically followed suit. We maintained close contact with these innovators, exchanging ideas and visiting each other from time to time. On the advice of Prof Al Rae of Massey University, Tony Parker of the NZ Romney Development Group, after failing to make progress in a small closed stud, began to introduce high performing females from his clients' flocks, thus "opening" his stud to ewes of proven performance. In effect this increased the gene pool by a massive amount and permitted very much higher selection differentials for traits of economic importance, thus producing rams of superior merit at a lower cost than in a traditional stud. The most valuable lesson we learned from Tony was to enlist Nature as a partner and observe the shape and type of animal that would evolve through selection on performance. No longer were replacement sheep required to conform to the outdated breed standards dictated by the show ring. Our experience over the years confirmed this. The concept of the open nucleus system was so logical and practical and offered so much promise, it was rapidly incorporated in our system and extended to the Foundation Flock Register where provision was made for promoting females from commercial flocks. In this instance we followed the principle of promoting only ewes in the top 20% of a measured age group at the F3 generation. This was a principle adopted by Prof Coop of Lincoln University in the development of the Coopworth, a synthetic breed developed along the same lines as the Dohne with strict emphasis on performance. Over the decades that this principle has been applied in South Africa, it has had a profoundly positive result.

Another important mentor was Jim Shepherd of the Australian Merino Society in WA. He believed that genetic merit was not necessarily confined solely to parent studs and that outstanding breeding material was also present in daughter studs and commercial flocks and should be utilized. He often stated that it was tantamount to a national sin not to identify high performing females in commercial flocks and use them in ram breeding programmes. This led to his de-registration "for conduct contrary to the objects and ethics of the Australian Stud Merino Breeders' Association". It was strange that the Stud Breeders at the time considered this attempt to improve the productivity of Merino sheep as a malpractice.

During the first three decades after the formation of the Society the fundamental principle of selection based on economically important traits was closely followed by the early breeders.

The most important criterion adopted was the measured relative efficiency of their sheep as producers of marketable produce. To preserve and improve the inherent hardiness and adaptability of the new breed, exposure of the sheep under selection to a natural commercial environment was encouraged. Consequently rapid progress was made over this time. The superior productivity of the Dohne soon became evident and it very soon became a major player and competitor in the industry. By 1990, there were over 300 breeders with nearly 48,000 recorded ewes, spread over the entire country.

As a consequence of the rapid growth of the society it became necessary to employ additional technical staff. Henri Londt joined the staff of the society in 1988 initiating a new era of progress. He was energetic, enthusiastic and ambitious, but above all highly capable and passionate about performance recording and scientific selection. For the next 24 years he became the face of the Dohne Merino, taking it to ever greater heights and extending its boundaries to all the countries of the southern hemisphere. Conscious of the importance of international communication, Henri embarked on a visit to Australia and New Zealand in 1991. Sire reference schemes (SRS) were largely replacing nucleus flocks as an instrument for breed improvement in New Zealand. Having been thoroughly briefed by Professor Al Rae of Massey University, Henri proceeded to establish a number of SRSs in different parts of South Africa. Using the new technology of breeding value determination, Henri was able to accurately assess the direction in which the breed was heading. This led to the remarkable realisation that too much emphasis on fleece weight was inhibiting the progress that was being made in terms of reproduction and growth rate, the major components of flock income. At this time targeted research at Grootfontein revealed that excessive fibre producing capacity inhibited an animal's resistance to stress and negatively affected fitness traits which influence reproduction and growth rates.

The research workers involved were Dr Danie Wentzel (1991) and Tino Herselman et al (1993) who coined the term Wool Production Potential (WPP) - the ratio of clean fleece weight to body weight at yearling age. Henri recognised the danger of an imbalance between fleece weight and body weight in dual-purpose sheep. In 1994 it was decided to reduce the value of fleece weight in the selection index which resulted in a rapid improvement in reproduction. Statistics pertaining to the average body and fleece weights, fibre diameter and WPP% in all studs were meticulously recorded over the years and the progress that was made testifies to the wisdom of the decisions made at the 1994 workshop and later. The WPP% and fibre diameter declined, the fitness of our sheep improved dramatically as did lambing percentages and growth rate. In 1996 the average WPP% of all Dohnes was 6.76% and the average lambing percentage was 108%. Thirteen years later in 2009, the WPP% was 5.15% and the lambing percentage over all studs had risen to 141%!

In addition to fine tuning the selection indices, with the help and guidance of Dr Kobus Delpont and Dr Buks Olivier, Henri managed the transition to across flock breeding values, bringing the Society fully in line with international best practice. From 1998 and for as long as it remained possible, he supervised the export of Dohne embryos to Australia and undertook a number of trips to Australia, South America and the Falkland Islands to assist with the establishment of the breed in these countries. It is impossible to quantify the enormous contribution that Henri made to the development of the Dohne Breed worldwide. It is a tragedy that he was taken from us in 2012 at the height of his career.

The introduction of the Dohne to Australia from 1998 onwards proved that Dohnes could perform equally well here. Dohne pioneers in Australia were Alex Leach and Geoff Beeck of Katanning, WA, followed soon after by Graham Coddington, Roseville Park, Dubbo, the Macquarie Stud, Warren and Uardry, Hay NSW. The Dohne ushered in a new era of prosperity for Australian woolgrowers who could now add lucrative prime lamb production in self-replacing flocks. It also heralded the introduction of the Dohne to the rest of the world, a market Australian breeders soon took full advantage of. From 2002 to 2007 I visited Australia every year to conduct

workshops to familiarise new and aspirant breeders with Dohne standards and principles. The welcome and kindness I received was overwhelming and I made many lasting friendships. I will always be indebted to Allan Casey who was my co-presenter in nearly all of the many workshops we held, and who generally looked after my welfare. He authored a chapter on Australian Dohne history in "Birth of a Breed" and when visiting me last year, we took delivery of the book together - hot off the press from the publishers. I wish also to pay tribute to the first two assessors, Bevan Taylor and Alan Clark who assisted with the practical work at many of our workshops and spent many days driving me to the many places they were held.

David Kain, honorary life member of the Australian Dohne Breeders Association, served for 8 years on the council and 5 years as national president. The Far Valley website is one of the most informative and educational sites I know, illustrating the dramatic improvement in productivity since Dohnes were introduced in 2000. When I showed him the manuscript of my first book "Sheep in my Blood", David immediately adopted it as a Dohne project and wrote the foreword. It was published by the ADBA and enjoyed wide circulation. Thank you David for your friendship and support.

The phenomenal expansion of the Dohne to countries in South America is perhaps the greatest testimonial to the superior adaptability and productivity of our breed. Dohnes are causing a revolution through their ability to substantially reduce fibre diameter in the Corriedale and other coarse wool breeds and at the same time improve both reproduction and growth rates. My friend Roberto Cardellino has been a major role player in the introduction of Dohnes to South America. He first saw Dohnes when he attended the 3rd World Merino Conference in South Africa in 1990 and was impressed. This led to an invitation to me to speak at the next World Conference in Montevideo in 1994, affording us a great opportunity to promote Dohnes. He arranged the importation of Dohnes to Uruguay in 2002 when the Tres Arboles Stud was formed. Dohnes are now a major sheep breed in Uruguay and continue to expand with the formation of a number of new studs. This year Dohnes achieved the highest average price of all breeds on public ram sales. Persons who have made an important contribution to the expansion of the Dohne in South America are Alejandro Vozzi in Argentina, Hugo Vera and Hernan Felipe Elizalde in Chile and William Vivanco in Peru. We have Dr Vivanco to thank for the design of a chart which compares the Dohne with other breeds in the world, emphasizing the fact that it is unique in being the only breed capable of weaning weights in excess of 30kg and growing wool of 20 microns and less - a true dual purpose breed.

The Dohne is making an important contribution to increased flock productivity worldwide. Looking back to the beginning, it is clear that the initial rapid success of the breed was due to the harsh environment in which it was developed – the sour grassland of the Eastern Cape. By constantly exposing animals to these tough commercial conditions and relentless selection of the most productive in this environment, a truly hardy, well adapted and efficient sheep breed was developed. The effective management and breeding principles implemented by the society ensured that the productivity of the breed continued to improve, wherever it was bred. Today it is up to us as Dohne breeders, to continue to improve and enhance the attributes of our sheep by adhering to the fundamental principles that led to success. Of equal importance is the necessity to preserve the correct relationship between body and fleece weight for a true dual-purpose breed. As a result of years of careful research and the monitoring of this ratio in the breed, it is clear that we are currently at an optimum level to maximise the combined income from meat and wool. In the 50 years of its existence, the Dohne Merino Breed Society of South Africa has made a major contribution to sheep production, not only at home, but in every country where Dohnes are run. I predict a brilliant future for our breed which will continue to improve and expand.

## **REFERENCES**

Herselman, T., Olivier, J.J. and Wentzel, D:(1993). Varying fibre production potentials under veld conditions. Karoo Agric, Vol. 5, No.1. Pub. Dept. of Agric., Karoo Region,Middelburg, C.P., South Africa. P.8.

Wentzel, D. (1991). Fibre production potential versus fitness in fibre producing animals. Dohne Merino Jnl. Vol. 15, No.1. P.34.