

What is the SNP?

Finding significant sequences of DNA within the genome of the Merino has long been touted as the next revolution for an industry desperate for productivity gains but until now we have not seen much for the millions being spent on sheep genomic research. For the critics, the next 12 to 36 months will be fascinating as finally there will be something to scrutinise.

Identifying genes that match or code for particular production traits such as micron, fleece weight or staple strength is the aim of the SNP chip, SNP being short for single nucleotide polymorphisms.

It is hoped a SNP chip will be available shortly and from a couple of drops of blood it will be able to determine the genetic potential of an individual animal for certain key traits.

Significantly, this information will be available from birth and by sending a SNP chip away with a blood sample on it, a breeder will receive genetic information within weeks.

Research is now at the stage of finding what these 60,000-odd pieces of DNA code for, whether it be fleece weight, eating quality, muscling or wool colour.

Having access to 800 to 1000 of the best sires across all sheep breeds is helping to put the pieces of this complex jigsaw together by knowing what each SNP actually means, known as association analysis.

Common sense says that the more heritable the traits, the fewer genes it involves. For example - fleece weight is not particularly heritable and is therefore hard to influence in a single generation and thus it is most likely to be dominated by many genes, whereas the piebald trait is dominated by very few genes and therefore should be easier to manage by knocking out just a few genes through breeding.

Manager of Sheep Genetics, Richards Apps is quick to spell out that new tools such as the SNP chip are in fact just another tool to use as a guide for breeders looking at using cutting edge technology and will not replace progeny testing nor traditional breeding of the Merino.

It can be seen as the next step in the evolution of breeding animals.

At first, people bred sheep using sight, touch and feel and then basic measurements such as weighing came in and then measurement of fleece characteristics such as micron was developed and accepted. These measurements fed into breeding values and are now combined with breeders' own touch and feel to assess the quality of animals.

This genetic technology takes it a step further by knowing exact genetic details of sheep, but it importantly does not take away the simple and effective personal assessments people like to make of sheep in the classing race and in the judging ring, it just works alongside.

"People will still be breeding animals, not computers or figures. These are simply tools to give you a much better picture of the genetic potential and variation within an animal or a stud."

Dr Apps said in general there was an over-estimation of the power of individual genes by breeders and commercial producers.

"A single gene rarely accounts for more than about 10 per cent of trait. In other words one gene is only responsible for about 10 per cent of the variation."

So, technology such as the SNP chip may help breeders give a better genetic overview of an individual, which is proving increasingly important.

Adapted from an article by Marius Cuming, Rural Press in the AASMB's *Merino Journal* 2009

Australian Wool Production Forecast

The Australian Wool Production Forecasting Committee says Australia's premium Merino fibre continues to be in short supply because of poor rainfall across south-east Australia and lower than expected fleece weights. The committee also expects that supply will not rebound in 2009-10.

The committee's revised forecast indicates a reduction in supply of Australian shorn wool production this season by 4pc on its previous forecast in December and 10.5pc lower than 2007-08 wool production.

Chairman, Russell Pattinson, said "The very dry conditions throughout the past three months in south-east Australia have been the main reason for this downward revision."

The committee anticipated this possibility in December and updated AWTA wool test results, AWEX brand analysis, ABS statistics on sheep numbers, slaughterings and live sheep exports, all point to a further reduction in supply for this season.

"Even though there has been good rain in northern Australia and in Western Australia, fleece weights there have not been as good as expected," Mr Patterson said.

"The significant shift in the structure of the flock, with a greater proportion of ewes and lambs and a much smaller proportion of wethers, has meant that even in states where rainfall and seasonal conditions have been reasonable, fleece weights have remained below historical levels.

"Another contributing factor has been the reduced use of fertiliser on pastures, due to its significant price increases, and this has reduced carrying capacity."

The committee also released its first forecast for the 2009-10 season, and predicts that shorn wool production in 2009-10 will fall by another 6pc to 335 mkg greasy.

"The committee expects sheep numbers to be lower at the start of the 2009-10 season, even with a normal autumn break and reasonable rainfall across wool producing regions of Australia," Mr Pattinson said.

"The recent softer wool prices in comparison to continued good prices for sheepmeat and lamb are causing growers to consider their options, with a further move towards the use of terminal sires for prime lamb production," he said.

"However, from a positive perspective, Australian farmers are largely remaining with sheep and Merino ewes as the base of their operation."

The DAFWA survey found that 67pc of Merino ewes will be mated to Merino rams this season, which will help the Australian wool industry recover, once seasonal conditions improve across Australia and once wool prices pick up.

Production is forecast to fall in every state in 2008-09, with the smallest percentage falls expected in Queensland and NSW, and the largest in South Australia and Tasmania.

The next forecast revision for 2008-09 and 2009-10 is due for release in mid July. 2008-09 and 2009-10.

For updates, view www.wool.com.au/forecasts

Australian State Reports

New South Wales

We have become used to the term "Modern Merino" in recent times as breeders explain the direction in which they are heading in breeding programmes. Truly the Merino is still evolving as it has done for many, many years. Stud breeders in NSW as well as throughout Australia push the genetic boundaries as we strive to produce the animal that perceived market forces dictate.

Today our focus is on plainer bodied, more fertile animals while retaining or improving wool cut and fibre fineness. This is no easy task as genetics tend to work against high wool cuts and plainer bodies as past stud masters have discovered. Hopefully, with the use of modern genetic science analysis, we will be able to move down this changing path and the evolution of the Merino will continue at an accelerated rate.

Drought has had a major effect across NSW in the past four years and as a result lambings have often been poor and many sheep have been sold far earlier in their lives than usual. Some areas of southern NSW have been in drought for over five years and their situation is obviously desperate. This is but one reason for a decline in Merino numbers.

The promise of "great riches" in the grain industry has taken many young farmers away from sheep, and although in many cases there have been crop failures, young farmers are so in debt that they cannot see any way out of their situation through livestock in the immediate and mid-term.

For far too long we have been loosely termed the "Merino Wool Industry." I firmly believe that today we belong to "the Merino Industry" because wool is only part of the overall package delivered. Today lamb and mutton have become almost as important in the equation as wool and in some cases even more so. The modern day butcher accepts Merino meat as equal to terminal breeds. Wool prices have always been volatile (as have all agricultural commodities) and sometimes the meat part of the Merino industry carries us when wool prices are low.

Much of my first two years as president of the NSW SMBA has been taken up with the mulesing debate. Fortunately the issue seems to have quietened down and many breeders who were very apprehensive about the end of 2010 now understand there is "a light at the end of the tunnel". Unfortunately some breeders have endeavoured to drive a wedge between themselves and the main stream stud breeders in relation to the ability of their sheep to repel blowfly.

Auction prices at multi vendor sales have held up well with clearances and averages meeting breeders' expectations. On property sales have been excellent, although while averages have been around the \$1,000 mark, clearances have been down about 10 per cent.

The NSW SMBA has continued to be involved with the Shearer and Shed Hand Training Course held in Dubbo. SMBA Trust funding to the Western Institute of TAFE has allowed around 150 young shed hands to be properly trained and many are now permanently engaged in the shearing industry.

While it must be acknowledged that there has been a significant downsizing of the Merino flock, I have confidence that it will be rebuilt particularly should wool prices go above the 1000c psychological barrier and we have a return to good seasons.

Robert Lindsay
President
NSW Stud Merino Breeders' Association Ltd

Western Australia

A president's report on the Western Australian Merino industry in recent years would be incomplete without reference to the highly successful World Merino Conference held in Perth in 2006. The group of enthusiastic and motivated members of our organisation that put together the programme deserve our thanks for a job well done.

The 2006 World Merino Conference was so successful that the Stud Merino Breeders of WA was able to set up a Funding Project for the state industry that aimed at providing benefit in specific areas. It was anticipated that the funds would be used to assist in growing commercial producer numbers, to attract young producers to the industry, to aid in providing relevant and timely information and to maintain market share for the Merino.

One success story from the project has been our involvement with the ewe productivity trials conducted by the Department of Agriculture and Food of WA, with our association funding the next round of link teams and being able to add to the good news story of the Australian Merino which has proven itself to be the most profitable breed assessed.

Western Australia is a large state producing 25 per cent of the national flock in a diverse range of environments. The recent seasons have highlighted this diversity ranging from the devastating droughts in the northern and eastern agricultural regions in 2006 and 2007 to some of the "best ever" seasons in the south of the state. In 2008 the northern areas enjoyed a return to better seasonal conditions while there was a huge variance in the south with late frosts taking a savage toll in some parts of the state. The importance of having diversity of income streams has once again been proven.

The Western Australian Merino industry depends not only on wool production but also has an integral role to play in the production of first cross prime lambs as well as the market for well finished Merino lambs destined both for domestic slaughter and live export. This flexibility of production is why the Merino performs so well across such a range of environments and market signals.

A strong focus on the younger population in agricultural industries has also seen the SMBAWA continue our foreign exchange programme with Argentina with the support of the National Australia Bank.

In 2006 Maria Gonzalo travelled to Australia and experienced living and working with WA Merino breeders as well as participating in the World Merino Conference. In 2007 we sent young commercial producer Simon Williamson to Argentina. In 2008 Rick Wise of Wililoo Stud in Woodanilling made the trip and in turn Rodrigo Gonzalo came to WA.

This exchange has been a great partnership between two Merino producing countries and has assisted in keeping the lines of trade open between Australia and Argentina, with Australian genetics being commonly exported to major enterprises in Argentina.

While many of our members are active in the show ring the SMBAWA recognises that science and technology play an important role in ensuring the future viability of our members and their clients and we are actively trying to build better relationships between all segments of our industry.

Rob Mullan
President (2007 - 2009)
Brett Jones
President (2009 -)
Stud Merino Breeders Association of WA

Queensland

As with most other states, Queensland has endured its share of the vagaries of Mother Nature in recent years with areas experiencing some of the longest running droughts on record and others having to survive floods.

Similarly, Queensland has also experienced a steady decline in sheep numbers through the years and this can mostly be put down to the prolonged drought and the ever increasing encroachment of dingoes and wild dogs into traditionally safe sheep areas. Efforts are now being taken to try and halt the invasion, but it is far too little too late as it will be hard to win back sheep breeders who have switched to other enterprises.

Last year marked the 75th anniversary of the Queensland Merino Stud Sheepbreeders' Association and the occasion was celebrated at the 2008 State Sheep Show held in Roma.

A book recording the history of the association and anecdotes of past members and presidents was compiled by The Reverend Mary Roberts of Victoria Downs and QMSSA president, Peter Hacker. The book was launched at a gala dinner during the show and the first edition was auctioned for \$AU3000. These proceeds will be used to help young sheep breeders attend educational forums and workshops.

The celebrations culminated in the opening of the State Sheep Show by the Associations Patron, Her Excellency The Governor of Queensland Ms Quentin Bryce.

It was also fitting that Will Roberts was granted a life membership of our association for the dedicated work he has done for the association and the stud Merino industry in general. Mr Roberts is a past president of the association and recently completed a three-year term as AASMB president. He comes from a family that has a great tradition with our association as his father, Lionel Roberts, was also a former president and life member and his great-grandfather was inaugural president of QMSSA.

The QMSSA has also recently held a multi-vendor ram sale at Westech - a massive field day held every three years in Barcaldine. This was the first multi-vendor ram sale held in Queensland for some time and was very successful. With the sale being restricted to only paddock-reared rams and the rams sold in pens of five or ten, no records were set, but solid sales were achieved by most studs participating. It is hoped more of these sales will be held in the future.

In 2010 the Queensland State Sheep Show will be held in Goondiwindi for the first time. The Queensland association has a policy of opening up the right to host the State Sheep Show to any show society in Queensland on every fifth year of the circuit. Goondiwindi was chosen as the south eastern corner has never hosted a State Sheep Show. Goondiwindi's proximity to New South Wales should ensure strong competition and a great spectacle of stud sheep on display.

Peter Hacker
President

Queensland Merino Stud Sheepbreeders' Association



Map of Australia

South Australia

We all know that rural industries have been doing it hard, and now the world economy is throwing up challenges for everyone to meet in their day to day activities.

This uncertainty provides an opportunity to re-evaluate, restructure and re energise and the Merino industry is no different - it needs to do the same, without "throwing the baby out with the bath water".

Recent history has shown us that the Merino industry is one of the greatest and most reliable sources of income to sustain viability,

with farmers more and more conscious of the importance of positive cash flows.

However, with the responsibility as guardians of Merino genetics and the future viability of the industry, the challenge continues to ensure that commercial sheep and wool producers become more profitable, thus ensuring the role of the Merino breeder.

To this end, South Australia's big dual purpose Merino strain continues to be a leader in productivity and profitability through its unique combination of positive performance attributes.

These are frame size, fertility, wool cuts, and plain bodies that ensure easier shearing.

With the SA Merino strain being primarily developed in the Mid North of South Australia, the strain has adapted to the variability and harshness of the environment to not only survive but also to thrive.

So with the state being at the continual mercy of drought conditions, farmers have an animal that has foraging ability and a constitution to perform strongly.

At present the industry is buoyed by the prices being paid for both lamb and mutton and while the wool price could be better, there are encouraging signs appearing from the export market that higher prices may be around the corner.

Our recent field day at Burra in March 2009 attracted the best crowds in 10 years with strong interest from interstate visitors resulting in a half share of a Collinsville Merino ram selling for \$AU28,000.

While this was the highest price paid, quite a few ram sales were made at an event that is primarily an opportunity to display stock.

The industry keenly anticipates the Adelaide Stud Merino Ram Sale which will be held at the Sheep Pavilion, Wayville Show Grounds, Adelaide on Friday, September 11, 2009 at 11.00 a.m.

Merino SA recommends attendance at field days for those within the industry not only as a way to promote the industry but also as a way to gain knowledge, direction and profitability from the industry.

Francis Andrews
President

South Australian Stud Merino Sheepbreeders' Association

Tasmania

Since the early to mid 1800s Tasmania has had a rich history of ram breeding and wool production. Early breeding flocks include Winton and reference flocks, Scone, Belle Vue and Esk Vale.

Winton to this day is still a registered stud, held in the Taylor family for close to 150 years. Other original studs currently registered include Trefusis, Mount Morriston, Mona Vale and Streanshalh.

In the 1950s through to the 1970s Tasmanian studs produced a huge team of breeders sending up to 70 rams each year to the Melbourne Ram Sale held in conjunction with the Melbourne Show.

With successful ram auctions in the 1960s the association supported the 002 Field Days from the 1980s through to the mid 1990s, with a showpiece multi-vendor ram auction being held in December at Campbell Town. These field days have since been replaced with on-property auctions and private treaty sales, with Trefusis having passed the 25-year milestone with auctions.

The Tasmanian association has been a long supporter of the Campbell Town Show, the oldest in the southern hemisphere, which celebrated its 170th anniversary in 2008.

The show runs for two days at the end of May/early June each year and has many special features. It provides a wonderful opportunity to showcase studs.

Tasmania has produced numerous wool record prices with the Fuji Company having a very active 30 year period from the inception of the reserve price scheme in 1973, often paying seasonal record prices. The culmination was a world record price of AU300,850 c/kg in 1989 for a bale from Connorville. Another notable highlight was the purchase in 1984 of a Collinsville ram for the then world record price of \$AU280,000 by Stockman stud, Melton Mowbray.

Currently registering 46 studs the Tasmanian association and its members face challenges as great today as any time in the past, having in recent years been ravaged by drought and economic pressures. However with a strong history and resourcefulness and resilience we hope these growers continue to strive and produce a product that is the envy of many.

Bruce Dunbabin
President

Stud Merino Breeders Association of Tasmania

Victoria

For many, 2008 will be remembered most for the sub-prime collapse and subsequent global financial crisis when fear and uncertainty rocked world markets and panic set in.

Curiously, as a primary producer it all seems a bit unreal - fuel at \$AU2 one minute, then \$AU1 the next, and commodity prices all over the place. Woolgrowers in recent years have steeled themselves to the challenges of uncertainty.

One would think the Merino should be well positioned in a world where energy costs and outputs are under pressure, and the market is demanding a natural fibre that is ethically and sustainably produced from an animal that has a capacity to provide protein to a hungry planet.

Given that we have effectively been in a wool marketing vacuum for nearly a decade, it is absolutely imperative that we have enough of the right people out the front telling the right story.

With the integration of Australian Wool Innovation (AWI) and Woolmark complete we can get on with the job of doing just that.

The changing of the guard at AWI will, I believe, be more inclusive of levy payers concerns but essentially will mean they can get on with the job of implementing the strategic plan which appears fundamentally sound.

As an outcome of the Australian Animal Welfare Strategy, industry and government have agreed to review the existing National Model Codes of Practice for the Welfare of Animals. The aim is to revamp the codes into a new format of standards and guidelines. The standards will be implemented into state and territory legislation while the guidelines represent good industry practice.

One of our association's biggest responsibilities through the year is our part in the Australian Sheep and Wool Show in Bendigo. It is evident that this fixture is gaining status for stud producers.

I also wish to acknowledge the good work that members are doing in advancement of the Merino in Victoria - be it through sire evaluation networks, field day groups or wether trials. The time people give these pursuits benefits us all and is testament to the sentiment that the Australian Merino is truly this nation's own all-purpose breed.

Jock Macrae
President

Victorian Stud Merino Breeders Association

MAJOR AUSTRALIAN MERINO EVENTS - 2009-2010

17 - 19 July

Australian Sheep & Wool Show Bendigo, Victoria
Email: office@merinovictoria.com

20 July

Export Ram Sale, Bendigo, Victoria
Email: office@merinovictoria.com

20 August

Katanning Show & Export Ram Sale, Western Aust.
Email: smbawa@bigpond.com

25 - 26 August

National Merino Show, Dubbo, NSW
Email: office@merinos.com.au

27 August

National Export Ram Sale, Dubbo, NSW
Email: office@merinos.com.au

9 - 10 September

Royal Adelaide Sheep Show, South Australia
Email: info@merinosa.com.au

11 September

Adelaide Export Ram Sale, South Australia
Email: info@merinosa.com.au

26 - 27 September

Royal Perth Sheep Show, Western Australia
Email: smbawa@bigpond.com

5 October *

Perth Export Ram Sale, Western Australia
Email: smbawa@bigpond.com

7 December *

Campbell Town Export Ram Sale, Tasmania
Email: mel7301@hotmail.com

23-25 January 2010

Great Southern Supreme Merinos Show & Sale,
Canberra, ACT
Email: tamarayoung@netspace.net.au

7 - 10 April 2010

Sydney Sheep Show, Sydney NSW
Email: office@merinos.com.au

May 2010

Queensland State Sheep Show, Queensland
Email: qmssa@bigpond.com

* Sales by description

Australian Show Champions 2008-09

Pictured are some of the major prize winners at the most recent major Merino shows in Australia.

This page, from the top:

- The grand champion Poll Merino ram and champion fine wool Poll Merino ram of the 2009 Wagin Woolorama (WA), exhibited by the Campbell family's Coromandel stud, Gairdner, WA. (Photo courtesy *Farm Weekly*)
- Then Governor of Queensland (now Governor-General of Australia), Ms Quentin Bryce, with Felicity, Charlie and Lachlan Brumpton and the ram from their family's Mt Ascot stud, Mitchell, which was Queensland Ram of the Year, grand champion and junior champion ram at the 2008 Queensland Sheep Show. (Photo courtesy *QCL*)
- Rod and Sue Miller, Brimpaen stud, Glenpaen, Victoria with their supreme exhibit of the 2008 Campbell Town Show in Tasmania. (Photo courtesy Jo Talbot)
- Brent and Jason Thornbury of Leenavale stud, Sorell, Tasmania, are pictured with their Tasmanian Merino pair of the year at the 2008 Campbell Town Show, along with Bob Berrenger of Roberts Ltd. (Photo courtesy Jo Talbot)

Facing page, clockwise from top left:

- The ram from Tara Park stud, Boorowa, NSW which was supreme exhibit of this year's Great Southern Supreme Merino Show in Canberra. The ram was also junior and grand champion ram and subsequently took out the grand champion ram title at the Sydney Royal Sheep Show in April, only beaten in Sydney by his half-sister which had placed to him in Canberra.
- Guy Evans holds his supreme exhibit of the 2009 Sydney Royal Sheep Show, a Tara Park two-tooth ewe which had earlier been grand champion ewe of the Great Southern Merino Show in Canberra. (Photo courtesy *The Land*)
- Tom and Matthew Ashby, North Ashrose, Gulnare, South Australia, with the stud's champion ram and champion pair of this year's SA Stud Merino Field Days.
- The 2009 Wagin Woolorama (WA) supreme Merino exhibit from the Norrish family's Angenup stud, Kojonup, WA, pictured with judges and held by Angenup co-principal, Gavin Norrish. (Photo courtesy *Farm Weekly*)





Australian Shows 2008 - 2009 Results of the major Merino Shows and Sales held in Australia since the last edition of *Merino World* can be found by following the links on the website of the Australian Association of Stud Merino Breeders. Go to www.merinos.com.au and click on 'Genetic Comparisons' in the Menu, then go to the 'Merino Shows' page.

Results of the three major Shows and Sales in NSW (at Dubbo, Sydney and Canberra) can also be accessed on www.merinsonsw.com.au through viewing the Merino Shows and Merino Sales pages.

Australia's Champion Pair

In 2008 the title of National Merino Pair of the Year, judged at the Australian Sheep Show in Bendigo, Vic, was won for the third time in seven years by John Crawford's Rock-Bank stud, Victoria Valley, Victoria. The pair, both sired by Rock-Bank Mr Rich, had earlier secured the individual titles of supreme champion ultrafine ram and ewe of the show. A spokesperson for the judges said "They were outstanding animals carrying amazing quality wool – just great crimp type and definition." The pair has a direct line back to the famous Merryville Ringmaster family.



Other finalists in last year's Stock & Land National Merino Pair competition were Langdene, Dunedoo (NSW), The Bluff, Hallett (SA), Leenavale, Sorrell (Tas), Mt Ascot, Mitchell (Qld, but not able to attend), and the previous year's national title winner, East Strathglen, Tambellup (WA).

Pictured are John and Sam Crawford, Rock-Bank, Victoria Valley with their 2008 National Merino Pair.

New Zealand

The title of supreme champion wool breeds sheep at the 2008 New Zealand Royal Show, held in Christchurch in November was won by a three-year-old Poll Merino ram exhibited by Allan Paterson of Armidale stud, Ranfurly. The ram had been bred by Mark Urquhart of Gray's Hills stud, Fairlie and Allan, who also classes at Gray's Hills, had introduced the ram to Armidale to re-establish Polls within the stud.

Allan Paterson is pictured (right) with his supreme champion ram which was also the champion Poll Merino ram.

Ron and Sue Small of Blairich stud, Marlborough secured numerous broad ribbons at the same event. Their stud was established in 1991 as a joint venture with Moutere stud until the Smalls purchased their own property in 1999 and introduced Merryville blood sires from Wurrook and Rock-Bank studs.

Sue Small (below) holds the Blairich champion superfine ram of the 2008 NZ Royal and Jeremy Dillon displays the reserve champion.

In the photo, bottom right, Ron Small shows his stud's 2008 New Zealand Royal Show grand champion ewe.



For news and information on the New Zealand Merino visit www.merino.co.nz

New Zealand - The Early Days

George Rich (right) was the first man to establish a Merino stud in New Zealand. He formed the Shakespeare stud at Mount Eden, Auckland in 1851 with imported Merinos from John Aiken who is considered the founding father of the Merino industry in the Australian State of Victoria. He also purchased Merinos from Silesia. From 1858 his rams and ewes were sold regularly at sales in Melbourne and Sydney and also in Rambouillet, France.

Two of George's ram were bought by the Peppins and used in the foundation of what we now know as the Peppin Merino - the most famous strain of Merinos in Australia.

In the early period many ram breeding properties existed, but it was not until 1894 that the New Zealand Sheepbreeders' Association was formed and a stud register established to record the breeding of all rams and ewes. A code of rules was compiled and to be eligible for entry in the flock book, it was necessary to have uninterrupted use of pure-bred sires since 1880.

In the first register of 1895, 14 Merino studs are

recorded with Flock No 1 showing records back to 1852.

Volume 1 (1895) lists most of the imported rams that came from the Taylors of

Tasmania, one from the Murrays of South Australia and one from Gadegast Saxony in Germany.

The 2005 New Zealand Flock Register records 73 Merino and Poll Merino studs mating 21,479 ewes. The oldest is Flaxton founded in 1902 by James Stevenson and carried on today by his great grandson, Ian.

Another well known stud, founded in 1903, is Moutere run today by Tony Jopp, a great grandson of the founder, Andrew Jopp. These men and the studmasters that followed, laid a firm foundation for the New Zealand Merino stud industry.

