MERINO WORLD

NEWSLETTER OF THE WORLD FEDERATION OF MERINO BREEDERS

ISSUE 10 MARCH 2008

President's Message

This year has been welcomed with much more optimism than in past years as far as wool prices are concerned, in spite of the significant rise in volatility surrounding global financial markets.

Higher cotton and synthetic prices continue to make wool prices very competitive. Economic activity and orders through the pipeline appear positive according to market intelligence, with supply and demand well balanced at the present time.

Trading in Australia on 25 January 2008 was up 5 per cent on last year and, during the week ended 1 February, the eastern market indicator stayed relatively steady in US dollar terms, lifting nine cents to 1045c.

Another cause for optimism across Australia is rain! Many drought stricken areas have received rain, particularly on the east coast, and dams are beginning to fill. Even though Queensland is currently in flood, it is too early to say the drought is over nationally, but there is hope that for many this will be the case, at least in the short term.

You will see elsewhere in this newsletter that the programme for the 8th World Merino Conference is progressing well, even allowing for the unforeseen circumstances that have moved the dates back so that it will now be held during the first two weeks of May 2010.

As President, I am continuing to maintain contact with prospective members as well as encourage attendance in France from all member countries.

Success has been achieved in renewing communication through an interpreter with Professor Ma Ning in China, which she was very pleased about.

Professor Ma has retired but she offered to meet me in Beijing and facilitate introductions to the leaders in the industry, all having been her students over the years, with a view to gaining China as a member. This is a great opportunity that I will pursue in coming months.

To further the aims of the Federation I will endeavour to visit the major events in member countries over the next two years and promote the conference in France.

Please don't hesitate to pass on to me any news from your regions. It is a pleasure to hear from you at any time.

With best wishes.

Glen Keamy
President WFMB
February 2008

MERINO WORLD

Newsletter of The World Federation of Merino Breeders

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Australia's 2007 Supreme Ram

The highest accolade on the Australian Merino show calendar in 2007 went to this ram shown by Bob and Bruce Rollinson, Concordia Merino stud, Mysia, Victoria. Awarded the title of 2007 Rabobank Australian Supreme Merino Ram at the Rabobank National Merino Sheep Show in Dubbo last August, the 22.9-micron ram had qualified to represent Victoria for the Australian title at the Australian Sheep and Wool Show in Bendigo, Victoria in July. Other finalists to contest the award were Wanganella, Deniliquin (NSW); Woolkabin, Katanning (WA); Roselea, Muckadilla (Queensland); Moorundie Park, Gulnare (South Australia)

MAJOR AUSTRALIAN MERINO EVENTS

2008

26 - 29 March	Sydney Sheep Show, Sydney NSW Email: office@merinos.com.au
9 - 10 May	Queensland State Sheep Show, Roma, Queensland Email: qmssa@bigpond.com
18 - 20 July	Australian Sheep & Wool Show Bendigo, Victoria Email: office@merinovictoria.com
21 July	Export Ram Sale, Bendigo, Victoria Email: office@merinovictoria.com
21 August	Rabobank Katanning Sheep Show, Western Aust. Email: smbawa@bigpond.com
22 August	Rabobank Katanning Export Ram Sale, WA Email: smbawa@bigpond.com
26 - 27 August	National Merino Show, Dubbo, NSW Email: office@merinos.com.au
28 August	National Export Ram Sale, Dubbo, NSW Email: office@merinos.com.au
10 - 11 Sept.	Royal Adelaide Sheep Show, South Australia Email: info@merinosa.com.au
12 September	Adelaide Export Ram Sale, South Australia Email: info@merinosa.com.au
28 - 29 Sept.	Royal Perth Sheep Show, Western Australia Email: smbawa@bigpond.com
6 October *	Perth Export Ram Sale, Western Australia Email: smbawa@bigpond.com
1 December *	Campbell Town Export Ram Sale, Tasmania Email: mel7301@hotmail.com
18-21 Jan. 2009	Great Southern Supreme Merinos Show & Sale, Canberra, NSW Email: tamarayoung@netspace.net.au

* Sales by description

8th World Merino Conference - France

The 8th World Merino Conference will be held in France in early May 2010 at the Bergerie Nationale of Rambouillet, crated by Louise XVI in 1786.

This institution played a major role in the nineteenth century in the improvement of wool based on world-wide export of Rambouillet Merino sheep introduced into France by order of the king.

The Bergerie Nationale is located some 40 km south of Paris, set in a 250-hectare parkland in the centre of the Presidential domain in the Forest of Rambouillet, recognised by scientists as an exceptional area of animal and plant diversity.

The Conference Organisation Committee proposes a scientific and technical programme that is both varied and of interest to breeders from around the world as well as an informative and entertaining stay in Rambouillet.

Deputy director of the Bergerie Nationale, Christine Lang, said “In addition to the main themes developed during preceding conferences, we shall pay particular attention to the role of sheep breeding in human activities, education and training, in sustainable development, landscape management and the promotion of economic balance in various parts of the country.”

Proposals for poster presentations are especially encouraged and simultaneous translation in French and English will be available for the conference sessions.

Pre and post-conference tours will balance flock visits with cultural and gastronomic highlights with a tour in the south of France, Spain and Portugal scheduled, probably prior to the conference and a tour encompassing the east of France and Germany planned post-conference with the possible inclusion of Hungary, Poland or Romania.

Member associations and interested persons will be able to access registration information; the method of submission of proposals for poster presentations; accommodation and details of pre/post Conference visits on the conference’s website in the northern spring of 2009. Direction to this website will be passed on to member associations when it is fully operational.

The Bergerie Nationale

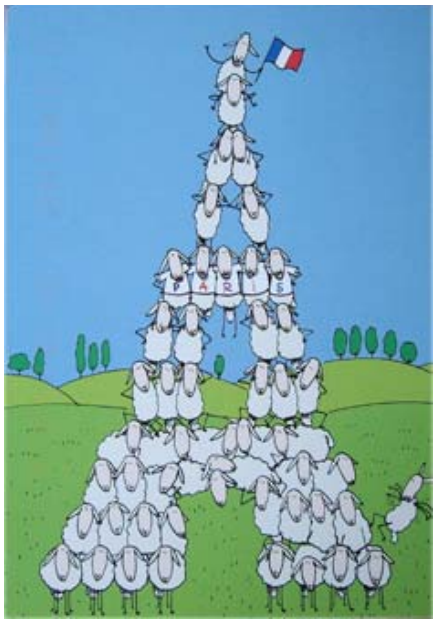
The Bergerie Nationale of Rambouillet, Zootecnical Training Center, is a national establishment of the French Agricultural Ministry.

All projects follow the national politics of the General Direction for Agricultural Training in contributing to teaching agricultural evolution.

Two centuries of history

In 1783, Louis XVI bought the Rambouillet domain to his cousin, the Duc de Penthièvre, and it became a hunting property. It was however also the “agromaniac” period, so he decided to create an experimental farm. This second vocation led to the construction of the “big farm”. These two functions have always been the basis of this national institute.

A Postcard from la belle France!



Breeding commenced in 1786 with the purchase of a Spanish Merino flock, now known as the Mérinos *de Rambouillet*. Louise XVI bought this flock from his cousin, the Spanish king, because of the outstanding quality of the wool and these Merinos have been used to improve wool quality throughout the world. This national and international phenomenon, known as *mérinisation*, continued until WWII.

Experimental breeding of other animals also started under the reign of Louis XVI - Swiss cows, African sheep, Angora goats and wild sheep (‘mouflons’). Later, Napoleon Bonaparte imported Italian buffalos and Belgian and Arabian horses.

Agronomic experimentation also commenced in the same period with 275 hectares of land under cultivation in the hunting domain.

The rural national establishment became an imperial one in 1804 with construction of the first Imperial Sheep Pens, then a royal one between 1815 and 1848. It became an imperial one again between 1853 and 1870 under the Second Empire. During this period the second Imperial Sheep Pens were built and the Ile-de-France breed of sheep was created (1840) by a cross between Merinos and Dishley sheep.

Educational centres

The shepherds school opened in 1791 and in 1939, the national breeding school commenced. Since then, the school has diversified:

1946 Artificial insemination school
1953 National poultry farming school
1955 The three schools, sheep breeding, insemination and poultry farming combined to form the Zootecnical Training Center (CEZ)
1965 Creation of the upper technicians section specialising in animal products

(Continued on page 4)

1967 Equestrian school created and in 1975, the equestrian upper technicians section
1993 Apprentices teaching centre
1994 The Bergerie National is given the status of National Public Establishment with the main mission of education on sustainable development

Bergerie Nationale of today

For two centuries the Bergerie Nationale (pictured) has been a place for experimentation, diffusion of new techniques and genetic preservation. The national shepherds school and training for breeding technicians continued until 1992.

Since 1994, due to its location in the centre of a population of 11 million, the Bergerie Nationale has been given a new mission covering sustainable development, sustainable agriculture and environmental education.

So the Bergerie Nationale of today is on the one hand anchored in tradition, and on the other, directed towards 21st century challenges.

It is a national establishment whose main role is the training of agricultural teachers, educational experimentation and support to agricultural teaching establishments, local operators and communities. The Bergerie Nationale also works with researchers, technical institutes, national studs, government and professional organisations.

It is also a 250 hectare farm visited by over 80,000 people a year, including some 40,000 school children.

Globe Trotting Merino Breeders

South African WFMB delegate, Andries Pienaar of Klipplaatsfontein Merino stud, Colesberg, South Africa has recently been in Australia. Here to judge Australia's two leading commercial Merino ewe competitions, the Don Brown Memorial Merino Ewe competition at Condobolin in the Central West of NSW and the Peppin Shaw Flock Merino Ewe Competition in the Riverina region in southern NSW, he spent a busy time criss-crossing the country. In his three-week visit he also addressed seminars at Young in NSW and at Hamilton in Victoria as well as jetting to Perth in Western Australia between seminars to attend the AGM of the Stud Merino Breeders' Association of WA and visit WFMB president, Glen Keamy.

Also visiting the Don Brown Memorial Merino Ewe Competition was Graham Black of Awapiri Merino stud, Blenheim in the South Island of New Zealand. Graham had previously judged this competition in 2004 and 2005.

Andries Pienaar and Graham Black are pictured with Ross Wells, Willandra stud, Jerilderie and Chris Bowman, recently retired as general manager of Uardry stud, Hay.

Rams sold for Export from Australia 2007

Prices shown in Australian Dollars

Armidale 7 February

$1400	1	
$1800	2	
$2000	2	
$2200	1	
$2400	2	
$5000	1	
$14,000	1	
= 10	Uruguay	

Bendigo 23 July

$7500	1	Argentina
$4000	1	Uruguay

Dubbo 30 August

$4000	2	
$5250	1	
$7000	2	
$3000	1	
= 6	Uruguay	

Adelaide 14 September

$5000	1	Argentina
$3000	3	Russia
$1000	69	(5 semen only) China

Total sold 2007 **91**

+ semen donors = 9 rams

The US Sheep & Wool Industry

Research Projects in Nevada

Following are backgrounds and progress to date of two research projects undertaken by the University of Nevada, Reno in conjunction with Rafter 7 Ranch, near Yerington, Nevada, which is managed by WFMB member, Tom Filbin.

Increasing sheep production profits by fall and spring two-season lambing

T Wuliji, H Glimp, D Thain, W Jesko, L Millsap and T Filbin

Introduction: Lamb production is a seasonal enterprise for sheep producers in the US and the lamb product market fluctuates for the seasons of the year. Lamb and fresh meat products are in high demand as well as price in the spring and ethnic food markets. Although sheep can complete the entire lambing cycle within 8 months, ewes are normally bred only once a year in the fall and lamb in the spring. This seasonality constitutes a major waste and delay in productive opportunity for small ruminant animals. Therefore, programming a year round or fall and spring two-season lambing regime may greatly increase sheep production efficiency and profits. Early studies showed that extending photoperiod or treatment with exogenous melatonin in sheep and goats have increased the duration of melatonin elevation in spring and summer and an early onset of the breeding season. There are a range of approaches available, which include natural stimulus (pheromone or ram effect) to various hormonal and managerial manipulations. Measurable benefits have been demonstrated for out of season breeding in sheep and goats.

Objectives:

- Evaluate the feasibility and profitability of altered fall lambing - v - spring lambing production system
- Evaluate the effectiveness of natural non-seasonality, implant of melatonin, progesterone, combination of melatonin and progesterone treatments for inducing out of season breeding in sheep.

Progress: We have initiated fall and spring two-season lambing programmes since 2005 on Rafter 7 Merino and Rambouillet flocks, while an accelerated lambing option will be evaluated in sheep flocks on MSFL (Reno) in 2007/08 fall-spring seasons. The current progress in fall and spring two-season lambing at Rafter 7 Ranch and the earlier experimental results indicate that out of season breeding and accelerated lambing improve sheep reproductive efficiency, farm profits and lamb market sustainability.

Merino Breeding Resource flocks at Rafter 7

T Wuliji, H Glimp, W Jesko, W Rauw and T Filbin

Introduction: A Merino breeding resource sheep flock was established at Rafter 7 Ranch through co-operation of the College of Agriculture, Biotechnology and Natural Resources, University of Nevada in 1990. Initially, 500 Rambouillet ewes were purchased from two established breeders. These ewes were bred naturally or by AI to imported ram semen from Australia (16 rams and semen from 41 rams) and to rams selected from within the flock.

WFMB delegate, Tom Filbin of Rafter Seven Ranch, Nevada, US .

Methods: Selection was based on objective wool measurements and phenotypic performance traits (lambing and meat production). The flock was expanded to 1200 ewes and was bred in 30 single sire mating groups in 2006. Presently, the Merino flock is managed in two breeding lines, one as a registered Merino flock and the other as Rafter 7 line, which are selected for wool, lambing and meat production traits.

Results: These resource flocks have made significant progress under the foundation ewe flock during the crossbreeding and upgrading phase in major selection traits and are now becoming the flagship Merino flocks in the western states. Results from Merino crossbred ewes demonstrated that wool fibre density, clean wool yield, staple length and greasy fleece weight were increased by 41 per cent per unit area of skin, 15 per cent, 2.5 cm and 1.14 kg per head shorn, respectively.

Wool sales from Rafter 7 Ranch won seven consecutive annual shears for the highest price in US grown wool. The current flock fibre diameter was reduced by 3.2 micron on average compared with the foundation flock (23 micron). The five finest bales of wool in 2006 averaged 16.8 micron (see table below). Sheep producers from 17 states and Canada have purchased breeding rams and ewes from Rafter 7 Ranch over the past 10 years.

2006 Fleece Class	Num	Micron	CV%	CF%
Superfine	583	16.8	18.2	100
Fine	558	19.2	17.6	99.3
Medium A	520	21.2	16.4	98.5
Medium B	97	21.9	19.4	95.9
Coarse	207	23.4	19.1	94.5
Flock Total	**1965**	**19.8**	**19.4**	**98**

Implications: Wool industry experts project that wool fibre diameter and its associated wool characteristics will continue to dominate wool price and textile use. Therefore, genetic improvement in wool and meat traits will increase sheep industry profits and Rafter 7 Ranch is poised to contribute genetic advantages to region-wide wool and sheep enterprises.

(Continued on page 6)

The US Industry

How the US Wool industry works

The domestic wool industry has been through significant changes over the last 50 to 100 years, but none more significant that those of the last 10 to 15 years.

That was part of the message from a panel of wool buyers at the 2007 annual convention of the Texas Sheep and Goat Raisers' Association.

Jason Bannowsky of Lempriere USA and Rick Honaker, Anodyne Inc, represent two of the last three major wool buying companies left in the United States. They were asked how the domestic wool market has changed over the last five to ten years and how those changes have impacted the wool industry in general and growers.

The biggest change, Bannowsky said, is that 10 to 15 years ago, the United States was consuming about 75 per cent of its domestic production and only exporting 25 per cent. Today, it's just the opposite with 75 per cent of the domestic clip being exported.

Honaker also pointed out that a decade or so ago there were three combing plants in operation on the East Coast, all in South Carolina.

The shift from mostly domestic consumption to exports, Bannowsky said, forced buyers to make a lot of changes in the way they handle wool.

"In the export business, you have to be able to present a product overseas that's comparable to a product from other countries," he explained. "Thus we've had to change the way we prepare our wools from classification to packaging.

"These overseas mills have very specific specifications on yield, micron, vegetable matter, and there is a certain range for length and a range of acceptability in terms of coloured fibres," Bannowsky continued.

The reason first stage processing has moved overseas, the buyers said, is two-fold - cheaper labour and looser environmental regulations.

"Those are the things that have put our domestic wool manufacturers out of business," said Bannowsky.

The reason the buyers are so focused on what happens in China is because today 60 per cent of the world's wool production is consumed in China. Most of the wools going to China, Bannowsky noted, are being further processed. In many cases they're taking it all the way to finished cloth or to finished product, and that finished product is then exported, primarily to Europe, the US and Japan.

Another change brought on by this shift from domestic consumption to exports is that for the buyers there is a great deal more risk involved in their business today. For example, fluctuation in currency or fluctuation in market price after the wool has been purchased but before the overseas customer takes delivery is a huge risk for domestic buyers.

"Currency is a huge portion of our business," Bannowsky said. "The strengthening or weakening of the US dollar plays a dramatic role."

"In the interim period from the time we buy the wools until we get them ready to export, if the market changes dramatically or if the currency changes and we're on the wrong side of that change, that can have a huge impact on our business," Honaker added.

All of these changes at the wool buyer level trickle down to the grower. Contamination remains a big problem at the grower level, and that not only impacts the grower in terms of price, but it also has an impact on the reputation of the entire domestic wool industry.

While there is still the age-old contamination problem with polypropylene, the single biggest current contamination problem is kemp, a problem resulting from growers crossing hair sheep with wooled sheep.
(Source: *Sheep Industry News*, February 2008)

US Wool Exports up in 2007

In fiscal year 2006-2007, US wool exports totalled 28 million lbs greasy weight, an 18 per cent increase over the previous year (*ASI Weekly*, 14 Dec. 2007). Greasy wool exports increased 8 per cent to 22 million lbs, representing 78 per cent of total US wool exports. It is likely that the American Sheep Industry Association's (ASI) international wool programs continue to help increase wool exports.

US early stage processors increased exports last year. Contrary to recent years, semi-processed wool exports increased 51 per cent to 6 million lbs greasy equivalent weight last year (*ASI Weekly*).

The US wool market is increasingly dependent upon the international market because up to three quarters of its clip is exported compared to about 35 per cent in the late 1990s. As the domestic processing sector contracted, exchange rates and the economic climate in China (the US's largest importer), Western Europe and India became more important.

A continued weak US dollar will likely help support wool exports in 2008. In the last two years, the Chinese Yuan appreciated 5 per cent which means that fewer Yuans are needed to purchase one US dollar. A stronger Yuan hurts China's exports (eg, textile exports) while making its imports (eg, wool from the United States) relatively more competitive.

In 2007, US wool prices were up 46 per cent by an average $US0.78 cents/lb to $US2.27/lb compared to 2006. Last year, most wool that sold on a clean basis sold in the first half of the year. Growers were most likely willing to sell early given the sharp price gains for Australian wool in late 2006 and early 2007.

In Texas and New Mexico, prices were 70 per cent higher than last year with finer microns up 50 percent and wool prices in the Fleece States were 46 per cent higher than last year. Prices in the Territory States were 40 per cent higher in 2007.

Due in part to tighter supplies, the Australian wool market hit a 17-year high last fall. In 2007 alone, Australian prices gained 34 per cent in US dollars. The average price of Australian raw wool imported to China increased 36 per cent year-on-year. By December 2007, higher raw-wool prices were passed on with up to a 51 per cent annual increase in Chinese wool top prices (Woolmark, 21 December 2007).

It is yet unknown whether high raw-wool prices will be passed on to consumers. It is one reason the outlook for 2008 remains guarded. There are concerns that the US housing slump could dampen demand for

(Continued on page 8)

Report of the Argentine Merino Breeders

The Argentine Merino breeder runs his business over a large area called Patagonia which comprises Chubut, Río Negro, Santa Cruz, Tierra del Fuego, La Pampa and Neuquén provinces (all in southern Argentina). With more than 4,500,000 Merino sheep, Chubut province is the most important.

The range land is mainly occupied by sheep and there is some beef on the wetlands called “mallines” and on petroleum fields looking for economic revenues. Today in Argentina there are around 7,500,000 head of Merinos of which 60% are ewes. Also there are small mobs of sheep in Buenos Aires, Entre Ríos and Córdoba provinces.

A soft La Niña dominated 2007, turning to more continental conditions in winter with more than 100 frost days bringing extremes of -25 degrees. With only showers and occasional snow storms there are still drought conditions. For example, some stations received less than 40 mm rain for the year, when in a normal year the average is 150 mm.

The prelambing shearing produced excellent wool quality also with good commercial strength, but with 20 or 25% less fleece weight and high pregnancy percentage this resulted in very high losses in October when lambing season started in the main area, although not in “Precordillera” or close to the mountains where it was normal.

With less lambs and poor body conditions this season, breeders obtained higher internal prices compared with export prices that also require fat coverage. The loss of two years of genetic improvement will affect the flocks

Today many sheep breeders are worried about the next breeding season from March till June, going north to south. The loss of body condition in ewes needs to be recovered immediately for mating and depends on good rainfalls and less heat than that of February which saw many days of wind and 39 degrees centigrade. We doubt that annual grasses can appear if climate conditions do not change.

The Grand Champion Ram of the 2008 Comodoro Rivadavia from Leleque stud with Alejandro Duhart, president of the Argentine Merino Breeders, judge Tom Ashby of North Ashrose stud, Australia, Federico Pichl, president of the Comodoro Rivadavia Show and the Leleque stud groom.

Many stations have started to buy hay from quite far away to be prepared to feed sheep next winter. Authorities have declared “Emergency Conditions” for ranchers after a general claim of the different Rural Societies, which is expected to result in general bankruptcies.

Across 2007/08 we have five main Merino Shows:

1) Carmen de Patagones- Viedma (Buenos Aires/ Río Negro)
2) Trelew (Chubut)
3) Esquel (Chubut)
4) Comodoro Rivadavia (Chubut)
5) Rio Gallegos (Santa Cruz)

Judging of the 4-tooth Merino class of 46 entries at the 2008 Comodoro Rivadavia with judge, Tom Ashby of Australia officiating.

The sales were not too good for stud breeders in view of the drought conditions mentioned above. The best prices were for the 4-tooth Great Champions in Esquel and Comodoro Rivadavia, with 20 and 22 microns and around 136 kilograms body weight, US$17,000 and US$18,340.

In 2007 the judge for the Comodoro Rivadavia Show was Kim Henderson from Grogansworth Merino Stud in NSW and in 2008, Tom Ashby from North Ashrose stud in South Australia, continuing the tradition of inviting Australian recognised judges.

This year the Argentine Ermenegildo Zegna Award was won by Cacho Crespo from Gobernador Costa valley.

Also the Association promotes some Stud Auctions such as Leleque Stud in November and Shaman Stud in January.

(Continued on page 8)

The US Industry

(Continued from page 6)

broader, coarser wools used in carpets. There is also concern that the weaker US housing market will spread into a general economic slump that will weaken wool apparel retail sales. However, continued tight supplies also fall into the price equation by putting upward pressure on prices.
(Source: *Sheep Industry News*, February 2008)

Sheep Interest on Rise in US

While the US sheep inventory contracted marginally in 2007, a more important indicator is that there is a growing interest in raising sheep. The number of sheep and lamb operations in the US increased for the second consecutive year in 2006. In 2005, the US Department of Agriculture (USDA) counted 750 additional operations, and in 2006, another 730 were counted for a total of 69,090 sheep businesses (USDA, National Agricultural Statistics Service 2006).

The expansion in sheep enterprises is likely sprouting from relatively small-acre ranches. Sheep production has several merits that may appeal to smaller farmers. It is relatively easy to get started because not a lot of equipment is needed. Some would say the fencing does not have to be as expensive or sturdy as it does for cattle. Secondly, the gestation time for sheep is less than for cattle and thus cash flow can begin soon after start-up. In addition, sheep are a good answer for those interested in pursing a sustainable agricultural system on their land.

As city folk make the escape to the country and as older farmers retire, the rural landscape is changing. Five- to 40-acre land tracts are being mapped out and houses are popping up in corn fields. These new farmers may not necessarily know anything about agriculture or sheep. The industry will need to keep up its extension efforts in addition to the continued promotion of lamb demand – the heart of a profitable industry.

The sheep industry is poised for growth. In January 2007, there was a reported year-to-year gain in the total number of ewes one year and older. Inventory was down in this year, but increasing breeding stock is a good sign that sheep numbers are bound to rise. Since 1920, the correlation coefficient between breeding inventory and all sheep and lamb inventory has been 0.99. If the correlation was one, then there would be perfect correlation.

The sheep inventory expanded in 2005 and again in 2006. The expansion may be contributed to USDA's Farm Service Agency ewe retention program. However, dry conditions most likely mitigated producers' plans to hold ewe lambs back for breeding so inventory contracted in 2007.

Although sheep numbers have been declining, the value has bounced around US$500 million over the last 20 years. This is due to strengthening prices. US lamb prices are US$40/cwt higher than in 1984, and we have observed record highs since 2003. In the last five years, gross income and cash receipts from sheep rose from about US$425 million to US$575 million in 2005 but then down to US$500 million in 2006 (Source: USDA/NASS, *Overview of U.S. Sheep and Goat Industry*, Sept 2007).

The Argentine Breeders

(Continued from page 7)

The Argentine Merino Breeders work in conjunction with INTA (National Research Institute) and national and provincial authorities sponsoring field activities, teaching about sheep selection and genetic improvement with our best inspectors. On 28 March the 9th field journey will be held in Rio Mayo where we have run the Merino Progeny Test for the last seven years.

The two genetic programs of the association, Pure Registered Merino and Pure Merino, have increasing participation among breeders. Their aim is only to improve each flock not to compare between flocks.

The first requires taking registers of body weight, fleece weight and micron, a program that provides a ranking through the index of your flock and also with a decision taken from the inspector who works on the visual characteristics. The second only requires the work of the inspector. Both programs contribute towards identifying the best animals obtained each year and push the breeders to understand the information in order to have more productive flocks.

We continue with the exchange program between Argentine Merino Breeders and Western Australia Stud Merino Breeders which facilitates a better knowledge of the different practices and problems in the sheep industry in each country. In 2007 we received Simon Williamson and in 2008 Rick Wise, now in Patagonia doing his work experience and making new friends for our future work together for the Merino.

In southern Patagonia and Chile there are many Corriedale breeders with an increasing interest in mating their ewes with Merinos in order to obtain lower micron. Many are more interested in the Poll Merino, but also in the Dohne Merino and in the last two years the Australian Merino Multipurpose has been promoted by a commercial company.

In 2008/09 our shows are:

1) Palermo end of July, the most important livestock show
2) Bahia Blanca, early October
3) Patagones-Viedma, mid November
4) Leleque Stud Auction, last Thursday of November
5) Trelew, around 10 December
6) Esquel, 3rd week end of January
7) Shaman Stud Auction, Tuesday after Esquel
8) Comodoro Rivadavia, end of January/ February

We are confident in the future of the Merino Breed in Argentina and the only way is to work hard and more, and to offer all the information required to compete with other sheep breeds promoting the Merino's qualities and differences for a niche market.

We need to make more use of the World Federation of Merino Breeders to exchange information and continue the wool promotion program (see story page 20) started in the USA last year, and extend it all over the Northern Hemisphere, where the consumers live.

Alejandro P. Duhart
President of the Argentine Merino Breeders
Buenos Aires, February 2008

Contemplating sheep industry's future

by **FNB Agricultural Solutions & Marketing**, South Africa

Is it possible to predict the future? Of course not! If so, would we not all be millionaires - correctly choosing lotto numbers or buying the stocks that will appreciate the most? We would avoid accidents and take precautions against only those threats that really will materialise – think of how that would put insurance companies out of business. But surely we can and do acquire some useful knowledge of the future because of the *continuity* between the past and the future.

Continuity has a number of facets, namely continuity of *existence,* which refers largely to the physical world around us; continuity of *change* which refers to change which manifests itself in a trend which runs a particular course; continuity of *pattern* which refers to a pattern or cycle that is identifiable in nature or social behaviour; and continuity of *causality* which is an action or event that can be anticipated on the basis of circumstances happening simultaneously or beforehand.

It is therefore possible to make some statements about the future that appear reasonable and the possibility that they could happen cannot be refuted.

For the sheep farmer, whether producing meat or wool, the economics of the industry is of prime importance, so we start with *expectations of demand for mutton*. Domestic and international markets are experiencing an increase in demand.

South Africa (SA) is a net importer of mutton with the major exporting countries being Australia and New Zealand. Higher prices are however being fetched in the faster growing economies of China and Russia resulting in a tendency of shorter supply locally which should support higher domestic prices. In contrast, the SA consumer has had to absorb higher interest rates within a climate of inflation.

Consumers will tend to substitute meat types in relation to relative prices which will tend to contain the higher price levels. In terms of seasonality, the demand and consequently higher prices of mutton will peak in the year end festive and holiday season but the jolt back to reality will be swift in the New Year as compulsory new household spending and past holiday extravagances pinch the vulnerable areas of household budgets.

Structurally, the production of mutton is ticking up after the history of stock losses due to theft and other causes. As sheep farming is largely extensive and veld conditions improve after the past number of relatively dry seasons, domestic production should increase in the foreseeable future.

The amount of suitable land for domestic sheep farming is limited as is the potential for higher density production processes (feedlots) due to the feed conversion ratio of sheep which is not competitive when compared to cattle and pigs and poultry. This must be read against a backdrop of higher feed commodity prices.

Continuing on the production side of sheep, it is unlikely that Land Reform will severely affect the industry. The areas most suited to sheep production are considered low potential areas otherwise, and are seen to be overlooked for redistribution.

With the exception of the Mpumalanga Highveld (fast gaining a coal mining identity) the other production areas in the Free State, Northern and Eastern Cape are freer of claims. Suitable agricultural enterprise types in low potential areas are not labour intensive.

Whatever labour there is will increase in cost at a rate higher than inflation as legislated minimum wages are increased each year – the labour intensive agricultural enterprises will be comparatively worse off.

The attractiveness of farming with sheep will depend largely on stock theft trends. As sheep production areas are remote, we can expect transport costs to be severely affected by drastic fuel price increases.

The international *demand for wool* is on an upturn – wool appears back in the fashion vogue and with less supply due to Australian droughts, wool prices are expected to increase.

Photo courtesy Theuns Botha, *Landbou Weekblad*

Another scenario affecting wool prices is however appearing: the international production of cotton (as a price competitor) may be on a decline as acreage is withdrawn in favour of oilseed production, and the price of polyester (also a substitute) may be increasing due to oil price increases. Both these developments bode well for the price upside of wool. It must still be borne in mind however that due to the comparative profitability a gradual swing to mutton production away from wool can be expected.

What can be expected from a *technology* viewpoint? The ideal technological contribution to the sheep industry would most certainly be in providing genetic material that would provide the optimum production in both meat and wool in the same animal.

This may be a way off yet, but the fact that genes can now be read means that selective breeding will need far less generations to achieve the desired offspring.

This could in the longer term also provide for increases in fertility and feed conversion ratio improvements to be more competitive in livestock industries.

Technology will certainly, before long, impact on the storage and preparation of meat. Consumer friendly innovations (deboning and flavour enhancements) and logistics (longer shelf life, packaging and transport) will be to the consumer's benefit.

Horns and Polls in Merinos

by **John H Stretton**
South African Stud Merino Breeder and former president of Merino South Africa

Polledness, or the absence of horns, is a characteristic found in sheep, cattle and goats and although it has no direct economic importance, it has always aroused the interest of livestock breeders. Horn growth, like the presence of black wool in the fleece, is governed by single genes, however unlike polledness in cattle which is governed by two genes, the presence or absence of horns in sheep, and Merinos in particular, is governed by three genes. These are:

P The Poll gene which is dominant to the other two

p' The Ewe-Horn gene which produces true horns (not scurs) in both rams and ewes. It is recessive to the Poll gene but dominant to the third gene, the Ram-Horn gene

p The Ram-Horn gene. This produces true horns in rams only and scurs or knobs in ewes. This gene is recessive to the other two

There are five variations of horn growth found at the horn site in Merinos. Although knobs or scurs may sometimes be found in depressions, for simplicity the five types are as follows:

Poll: A depression or hollow in the skull at the horn site.

Knob: A hard boney lump at the horn site which may have a horny cap, generally less than 12 mm in length.

Scur: A horny growth which does not have the shape or size of a true horn.

Small horn: Horn growth in some half poll rams which have true horn characteristics but which are shorter and thinner than true horns.

True horns: Robust, curled horns in rams and smaller curled horns in ewes.

As each sheep has its chromosomes in pairs, only two of these three genes can occur in any particular sheep and as there are the three genes governing horn growth, there can only be six possible combinations of pairs. These combinations are illustrated as:

	Rams	Ewes
PP	Polled (depressions)	Polled (depressions)
Pp'	Scurs less than 12 mm	Knobs
Pp	Scurs 12 mm and longer or small horns	Knobs
p'p'	True horns	True horns
p'p	True horns	True horns
pp	True horns	Knobs

John Stretton

Animals carrying only one Poll gene (P) are known as half polls, and rams with short or small horns (Pp) are not culls as the Poll gene is not linked to any other characteristic, good or bad. Small horns in rams are therefore not a sign of a feminine head, but show that the ram is carrying one Poll gene (P).

The horn growth in hammals (wethers) is almost identical to that of ewes provided they are castrated early, whereas later castration leads to increased horn growth due to the effect of the male hormone testosterone.

It is sometimes claimed that some individual Poll rams throw more polled progeny than others, but the results are entirely due to chance. All the progeny of a full poll ram (PP) will of course have at least one poll gene (P), no matter what ewes he is mated to.

A popular topic of discussion is the origin of the Poll Merino and it is sometimes said that these hornless sheep are the results of "sports". A sport is the common word for a mutation which is a change in a gene which can be caused for instance by radiation. Genes however are very stable and a natural mutation may occur 1 in 100,000, which means that a stud producing 2000 rams per year might see a sport (and it need not be hornless) once every 50 years. This is too seldom to be of any consequence.

It is certain that there have always been a small proportion of ewes in our Merino flocks with depressions at the horn site, probably about one per cent. These ewes may have either one or both Poll genes and go unnoticed as no-one normally examines the horn site at classing time.

In Australia it was found upon investigation that the occurrence of these ewes with depressions was just as prevalent in fine wool studs as in medium and strong wool studs. This rules out the source of the Poll gene being the result of some previous crossing by British mutton breeds.

It is interesting to note that ewes with horns are seldom found in Australian studs as they are regarded as culls. It is not certain why they are considered as

(Continued on page 12)

Fibre Diameter

Is it possible to decrease fibre diameter without compromising other economically important traits?

by **W J Olivier** - Grootfontein A D I, South Africa

Introduction

During the 1950s and 1960s much emphasis was placed on the selection for the amount of wool produced. This resulted in a decrease in the proportion of fine wool (20 μ and finer) in the national clip from 69 per cent in 1951/55 to only 4 per cent in 1976/80 (Marx, 1981). There was a shift in the demand for finer wool during the 1980s and early 1990s. This increase in the demand of finer wool resulted in a huge price premium paid for finer wool types during this period.

These facts lead a shift in the emphasis in wool production towards the production of fine wool, rather than simply the amount of wool. The proportion of fine wool in the national clip had since then increased to 24 per cent in 2005/06 (Cape Wools SA, personal communication, 2007).

Consequently, the number of flocks in South Africa where selection for decreased fibre diameter was practiced increased markedly. In other words, selection for decreased fibre diameter was an important selection objective for many producers. In some instances it was even the only objective, regardless of the effect on the other production traits.

The price premium that was paid for the finer wool types was in some cases the end goal of producers, as it would lead to increased profitability.

It is however important to maintain a balance between the economically important traits. This is particularly true in South Africa, where meat production contributes more than 75 per cent of the farm income of Merino farmers. The purpose of this study was therefore to evaluate the effect of selection for decreased fibre diameter on production and subjective traits.

Materials and methods

- **Data**

Data collected on 5820 ram and ewe hoggets of the Grootfontein Merino stud (GM) from 1985 to 2003 and 6127 ram and ewe hoggets of the Cradock Merino stud (CM) from 1988 to 2004 was used in this study.

Detailed descriptions of the management and selection procedures followed in these flocks have been reported for the Grootfontein stud (Olivier, 1989) and for the Cradock stud (Olivier et al., 2006). The hogget production traits analysed included 15-month age body weight (BW), clean fleece weight (CFW), mean fibre diameter (MFD) and staple length (STPL). The subjective traits assessed on a linear scale from 1 to 50 were wool quality (QUAL), variation over the fleece (VAR), staple formation (STAP), conformation of the front quarters (FQRT) and overall body conformation (CONF) (Olivier et al, 1987).

- **Statistical analyses**

The significance levels for the fixed effects were obtained with the PDIFF-option under the PROC GLM-procedure of SAS (Littell et al, 2002). Several fixed effects (year of birth, sex, rearing status and age of dam in years, as well as the hogget age as a linear regression) were tested. Only effects and interactions which had a significant effect ($P < 0.01$) on a specific trait were included in the final model.

The estimation of the genetic parameters and breeding values were done with ASREML (Gilmour et al., 2002). Log likelihood ratio tests were done to determine the most suitable model for the estimation of (co)variance components for each trait.

The most suitable model for BW and CFW included both the direct additive genetic variance and the maternal additive genetic variance. For MFD, the direct additive genetic variance and the maternal permanent environmental variance were included in the model.

Only the direct additive genetic variance was included in the models for STPL, QUAL, VAR, STAP, FQRT and CONF. The genetic trends for the respective traits were obtained from univariate analyses.

Results and discussion

The genetic trends of the traits analysed are depicted in Figures 1, 2 and 3 for the Cradock fine wool Merino stud and Figures 4, 5 and 6 for the Grootfontein Merino stud. The genetic trends and R^2 values are summarized in Table 1 for both studs.

Table 1. The genetic trends and R^2 values of both studs

	Cradock fine wool Merino stud		Grootfontein Merino stud	
	Trend	R^2	Trend	R^2
MFD	-0.09	0.80	-0.08	0.92
CFW	0.08	0.80	0.02	0.22
STPL	0.11	0.85	0.01	0.11
QUAL	0.13	0.96	0.09	0.87
VAR	0.08	0.59	0.05	0.66
STAP	-0.00	0.00	-0.02	0.26
BW	0.13	0.94	0.09	0.86
FQRT	0.12	0.94	0.09	0.84
CONF	0.14	0.94	0.10	0.84

It is evident from Table 1 and Figure 1 that the genetic trend for MFD was negative in CM. Furthermore, it is evident from Figure 1 that there was only a slight decrease in MFD from 1988 until 1996. This was due to the fact that the animals were small with poor conformation; therefore, more emphasis was placed on BW than on MFD during the first few years. Since 1997, more selection emphasis was placed on MFD, as the BW and conformation of the animals had improved.

In 1985 the selection objectives in the GM were changed to selection based on breeding values of economically important traits. It is evident from Table 1 and Figure 4 that fibre diameter steadily decreased over the 18-year period. This was achieved by placing more emphasis on fibre diameter from the start rather than body weight and conformation which was at a satisfactory level, compared to CM.

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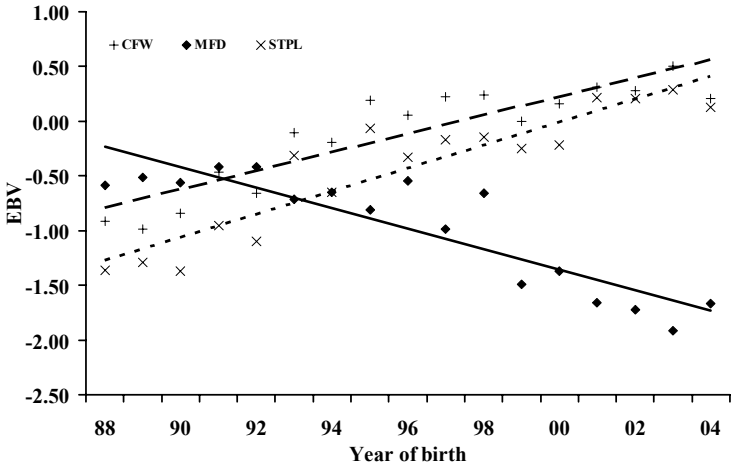

Figure 1. Genetic trends of MFD, CFW and STPL of the Cradock fine wool Merino stud

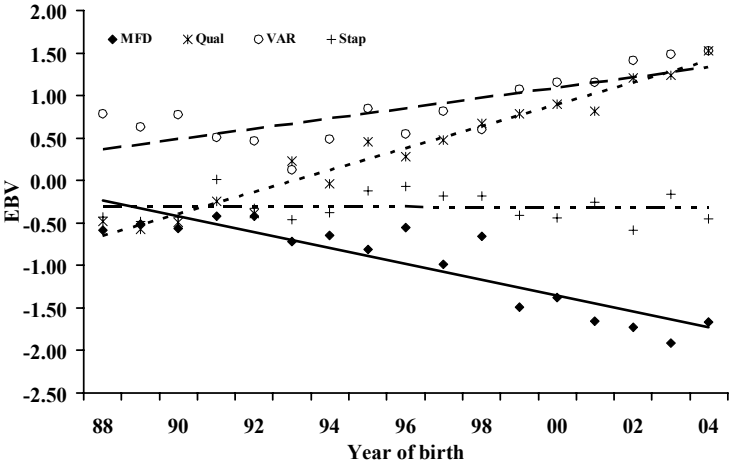

Figure 2. Genetic trends of MFD, QUAL, VAR and STAP of the Cradock fine wool Merino stud

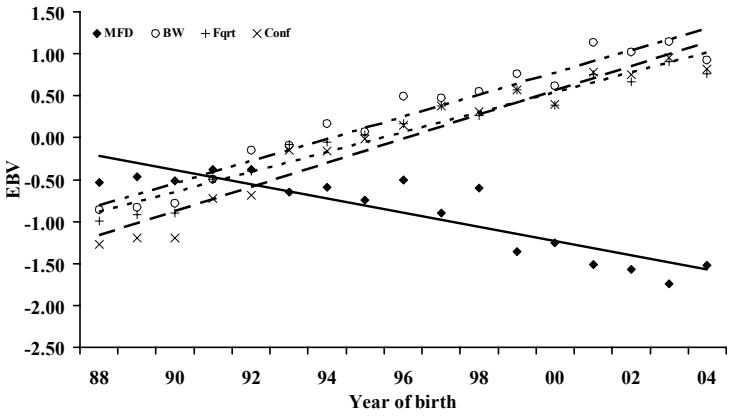

Figure 3. Genetic trends of MFD, BW and the conformation traits of the Cradock fine wool Merino stud

It is however important to realise that unfavourable genetic correlations (r_G) exist between fibre diameter and the other economically important traits (Olivier et al, 2006). Of particular importance are the unfavourable r_G between fibre diameter and body weight, clean fleece weight and staple length reported by several authors (Safari et al, 2005; Swan et al, 1995; Purvis & Swan, 1997).

Nonetheless, genetic change in BW, FQRT, CONF, CFW, STPL and QUAL were in the desired direction in both studs. Staple formation in CM remains constant, while there was a slight decrease in the staple formation in the GM.

(Continued on page 13)

Horns & Polls

(Continued from page 10)

such while in South Africa this is not the case.

The main advantage of a Merino without horns is that rams are not susceptible to poll strike (maggots behind the horns) which can cause temporary infertility. Other advantages of Poll Merinos are that they are easier to shear, they have no horns to get caught in the horns of other sheep or in fences and they are easier to handle as they do not cause injury or tear clothing.

There are however some advantages to horns on Merinos. Rams are easier to see in a flock of ewes, this is particularly useful when rams get to the ewes at the wrong time of the year. Horns also serve as useful "handles" to hold sheep by.

As the Poll gene is in no way correlated to any other characteristic, Polled Merinos can be considered no better or no worse than horned Merinos. That Polled Merinos do not generally have the production ability (e.g. fleece weight or body weight) of horned Merinos, is simply due to the fact that there are fewer Polled Merinos around, which limits the potential for improvement.

Until 1988 the constitution of the Merino Breeders Society of South Africa placed certain restrictions on members regarding the mating of Polled and horned Merinos in registered studs. To be able to breed Poll Merinos a breeder had to register a separate Poll stud and no horned rams were allowed to be used in Poll studs (to improve fleece weights and body weights) and any Poll rams born in horned studs were not allowed to be transferred to Poll studs and so were considered as culls in horned studs. Polled and horned Merinos were almost regarded as separate breeds.

As a result of an amendment to both the Constitution and By-Laws of the Society at the AGM of 1988 these restrictions were lifted. It was then no longer necessary to register a separate Poll stud to breed Polled Merinos and breeders were then free to mate Polls to horns and vice-versa as they wished. From that time on, Polled and horned rams could be entered in the same teams at official sales and Polled and horned sheep could be entered in the same strings at shows. Only one show class remains, "The best Polled Ram on the Show". To qualify for this class a ram may not have a knob or scur longer than 30 mm.

It is interesting to note that all attempts to dehorn Merinos, both in Australia and other countries have failed. No matter at what age or what method is used, the horn growth is found to be remarkably persistent. Breeding is therefore the only way to have Polled sheep - perhaps this is a

Fibre Diameter *(Continued from page 12)*

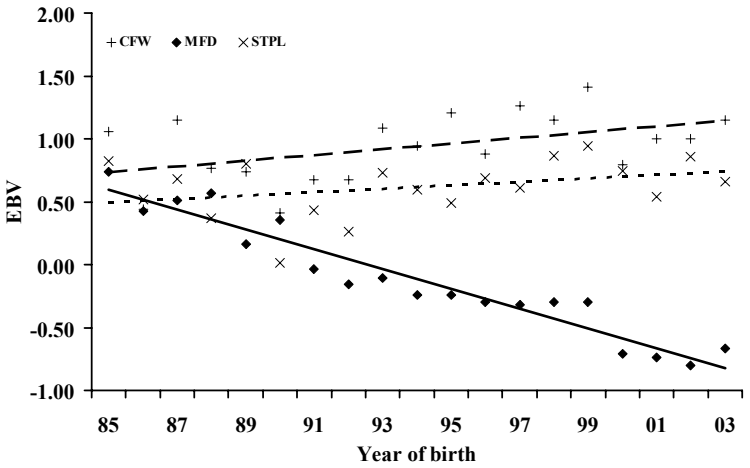

Figure 4. Genetic trends of MFD, CFW and STPL of the Grootfontein Merino stud

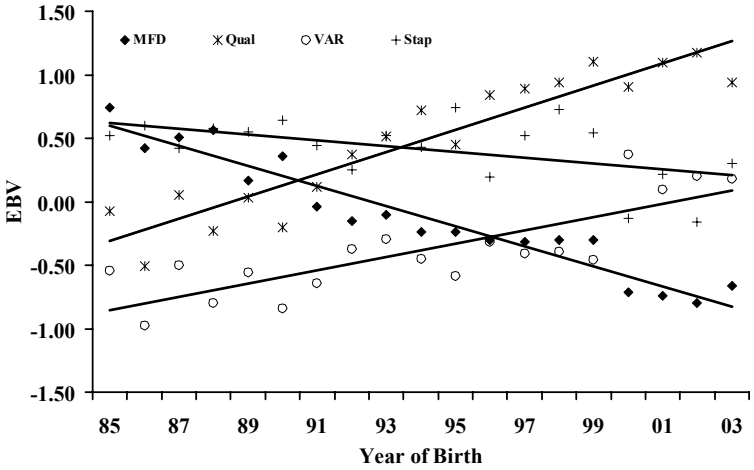

Figure 5. Genetic trends of MFD, QUAL, VAR and STAP of the Grootfontein Merino stud

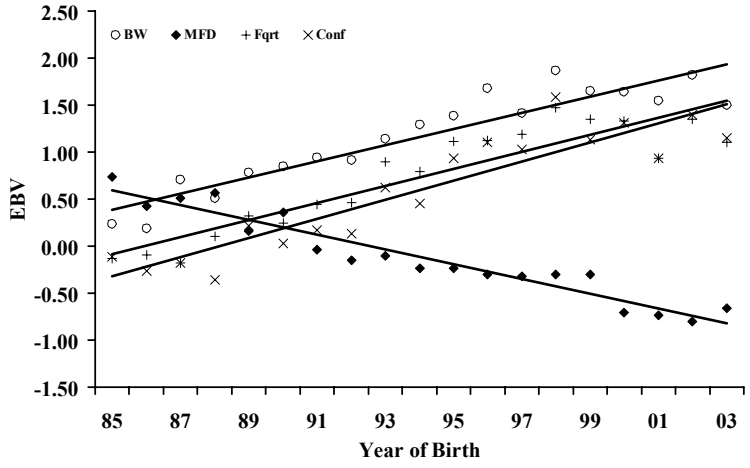

Figure 6. Genetic trends of MFD, BW and the conformation traits of the Grootfontein Merino stud

It is evident from the results of this study that the breeding objectives of these studs, namely, to increase BW and STPL, to maintain CFW and to decrease MFD, were largely achieved. This was done despite the existence of unfavourable genetic correlations between MFD and the other traits and was achieved through the use of estimated breeding values. The use of estimated breeding values made it possible to select the bigger and finer animals as replacement animals and consequently increasing body weight and decreasing fibre diameter of the next generation.

Photo courtesy Theuns Botha
Landbou Weekblad

Conclusions

It can therefore be concluded that it is possible to decrease fibre diameter without compromising other economically important traits. However, it is important to note that the other traits must be included in the breeding objectives, or monitored to detect possible unwanted correlated changes early.

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Horns & Polls

(Continued from page 12)

blessing in disguise as dehorned sheep cannot be passed off as being Polled.

The most effective way to increase the number of Poll sheep in any flock is to mate the Poll rams to horned ewes and the horned rams to Poll ewes. In effect this will spread the Poll gene around among as many sheep as possible. This will enable the breeder to select for economically important traits, regardless of whether the sheep is Polled or horned and at the same time increase the occurrence of the Poll gene in his flock.

As we look back after nearly 20 years since our society lifted the restrictions on Polled Merinos, we see that Polled Merinos are far more numerous now than ever before. It is interesting to note that all sheep breeds that compete with the Merino are Polled while in cattle the trend is definitely away from horns. Who knows, maybe the South-African Merino of the future will be Polled.

References:

Dolling, C. H. S., 1970, *Breeding Merinos*
Dunn, R. B. and Eastoe, R.D., 1970, *Science and the Merino Breeder*
Dalton, C., 1980, *An introduction to Practical Animal Breeding*

CSIRO - A Global Leader in Wool Research

Research undertaken by Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) increases global demand for Australian wool by expanding wool's uses into new high-value technical markets, developing innovative products and using advanced genetics to grow better wool.

CSIRO's wool research

Wool research is part of CSIRO's Protein Biofibres theme and the organisation's strategy is to improve the global demand for wool by:

- using genetics to produce superior quality wools
- improving product performance
- developing new innovative products
- developing new high-value technical markets.

A particular focus is apparel, where wool is still the dominant fibre chosen by consumers for high-end luxury products. A secondary focus is to assist the wool-growing and processing industries to produce environmentally sustainable wool for international and domestic markets.

Protein biofibres theme

The scope of CSIRO wool research has been broadened to include the following explorations of:

- protein fibre science to understand the structure, properties and behaviour of wool and other keratinous materials
- modification of fibre properties to produce new products with improved comfort and appearance
- high-performance technical fabrics for extreme sports, protective wear and comfort
- protein fibre processing to shorten the process pipeline and reduce costs
- environmentally sustainable wool production
- advanced fibrous materials and composites of wool-rich products for medical, military, automotive and aeronautics markets
- new bioengineered protein fibres, produced both *in vivo* (in living organisms or cells) and *in vitro* (in artificial environments), for specific applications in human and animal health
- sheep genetics, genomics and advanced reproductive technologies to develop animal lines producing fibres with properties suitable for high-value apparel, such as whiteness and softness.

Partnerships

CSIRO works in partnership with a range of organisations including:

- Australian Wool Innovation Ltd (AWI)
- Australian Wool Testing Authority (AWTA)
- Deakin University, Victoria
- the University of Wollongong, New South Wales
- Cooperative Research Centre (CRC) for the Australian Sheep Industry.

CSIRO contributors to this research include:

- CSIRO Textile and Fibre Technology brings expertise in the formation, structure, properties and conversion of protein fibres into products - visit www.csiro.au/org/tft.html
- CSIRO Livestock Industries brings internationally recognised capability and infrastructure in quantitative and molecular genetics and genomics and advanced reproductive technologies - visit www.csiro.au/org/cli.html

Some recent achievements

SiroLock™ doffer wire, recently commercialised by Bekaert, is a significant breakthrough in fibre processing efficiency and is generating significant sales in the global market.

CSIRO's electrically-charged wool filters are currently being commercialised for applications in respirators and air-conditioning.

ColorClear™ wool whitening technology produces fabrics with a comparable whiteness to cotton and synthetics, lifting the competitiveness of wool-polyester blends.

QuickDry Merino, a product developed between CSIRO and AWI, makes wool garments easier and cheaper to care for and is currently being commercialised in China, Australia and Europe.

With collaborators, CSIRO has developed high-speed automated testing for wool fibre contamination and helped reduce costs for woolgrowers

Several of these projects have been undertaken with funding assistance by Australian Wool Innovation.

Future steps

The identification and development of new technical applications for wool will be essential in generating sustained demand for wool products.

Due to CSIRO's multidisciplinary capability, it is uniquely placed to create new opportunities for Australia through:

- developing new ways of producing commercially viable protein biofibres
- assisting the wool industry to transition to a biotechnology-based industry
- resolving wool's technical problems as an apparel fibre
- developing high performance products that meet consumer expectations
- applying advanced genetics to the development of wool with improved whiteness and softness.

References

- ColorClear™ and SiroLock™ are trade marks of CSIRO Australia.

For further information visit www.csiro.au/science/AnimalProducts.html

CSIRO, the Commonwealth Scientific and Industrial Research Organisation, is Australia's national science agency and one of the largest and most diverse research agencies in the world. CSIRO's research is performed by 17 divisions, which are the business units of CSIRO.

Industry News

Tri-Lamb initiative Leans on Lamb

Getting more Americans to eat lamb and understand that it is an essential part of a healthy and well balanced diet is the focus of a new joint initiative by Australian, United States and New Zealand sheepmeat producers under the Tri-Lamb Group partnership.

The Tri-Lamb Group supports the implementation of a joint research, consumer education and public relations program to increase positive awareness of lamb through a focus on the nutritional and health benefits of lamb in the United States.

The ambitious nutrition campaign between the three lamb producing nations is dubbed “Lean on Lamb” and is designed to educate consumers, registered dieticians and nutrition educators about the health benefits of eating lamb in the US market.

Information on the programme can be found on www.leanonlamb.com and its related links which also give nutrition information, tips for preparing and cooking, and recipes:

- australian.lamb.com
- newzealandlamb.org
- americanlamb.com

Wool Export Brief: South Africa

Data published by Cape Wools reveals solid growth in total South African wool exports for the September quarter of the 2007/08 season year-on-year. In terms of value, the rise in wool exports was even stronger.

There are two main factors for the steep rise of South African wool exports: the significant increase in the price of greasy wool and a rising demand for the local clip on the international market. Strong demand for apparel wool over the last 18 months has benefited the South African wool industry. The characteristics of South African Merino wool are fine micron, low level of vegetable matter and excellent yield.

The main importer of South African wool is China and the second largest export destination is Italy. South African wool exports to the Czech Republic rose strongly in the quarter, making it the third largest importer. The most impressive increase in the volume of South African wool exports by country was India, bringing it to fourth place.
(Source: The Woolmark Company 2007)

Key retail markets: China update

China’s consumer confidence in August was at the second highest level since January 2007. Against this backdrop, China’s retail sales were boosted in August, with sales of apparel and footwear products among the best performers.

According to the large scale department stores apparel retail sales (all fibres) in August only increased moderately year-on-year in volume terms, but were much stronger in value terms.

Based on the survey, most of the apparel categories by volume reported slower year-on-year growth in August compared to a month earlier. For the chiefly wool user categories, the pace of men’s suits sales dropped in August, while sales for wool and cashmere knitwear continued to decline during this month compared with twelve months ago.

Sales of household textiles were boosted, with bedding products up strongly and carpets up massively year-on-year. Growth in this sector is being mostly driven by the prosperity in the housing market, a sector that is continuing to grow.
(Source: The Woolmark Company, December 2007)

Wool reaches Global Markets

In its commitment to marketing Merino wool around the globe, Australian Wool Innovation (AWI) is rolling out a series of workshops and meetings with key retailers around the globe.

AWI has already held more than 600 retail workshops in 12 countries including China, UK, Korea, Italy, USA, Australia, Germany, Japan, India and France.

AWI global product development manager, Jimmy Jackson, said the workshops aim to introduce key global retailers to an innovative range of Merino products, their applications and the benefits of using Merino in their range.

"AWI can provide business partners with technical knowledge, such as how to dye, spin and finish; where to source fibre, yarn and garments; and knowledge of how to enhance wool's properties by making it easy-care and softer," said Mr Jackson.

"We can also help retailers and brands to successfully communicate to the consumer through the development of product brand names, hang tags, point of sale display information and public relations."

AWI is also providing one-on-one workshops to business partners to update them on the latest developments and trends and to provide advanced strategies for marketing knitted garments.

Showcasing innovative product developments, the workshops highlight the true versatility and durability of the Australian Merino wool. Each workshop also provides a consumer overview of the world of fibre and fashion based on the result of surveys with more than 22,000 people across the globe. Consumer insight presentations have been tailored by region to incorporate detail about each regional customer’s responses.

The workshops have received an overwhelmingly positive response, with the most favoured Merino products Merino Vintage, Moisturising Merino, Ultra Light Merino, Mercerised Merino and Easy Care Merino.
(Source: Australian Wool Innovation, December 2007)

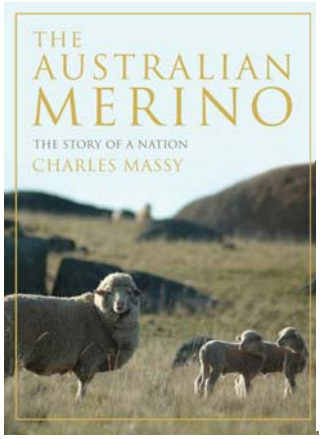
Currency Conversion as at 4 March 2008

1.00 Australian Dollar (AUD) =

2.89	Argentine Peso (ARS)
0.88	Canadian Dollar (CAD)
0.59	Euro (EUR)
161.40	Hungarian Forint (HUF)
1.13	New Zealand Dollar (NZD)
22.35	Russian Rouble (RUB)
6.78	South African Rand (ZAR)
19.14	Uruguayan Peso (UYU)
0.91	US Dollar (USD)
5.9687	Chinese Yuan (CNY)

Classic Revived

To coincide with the commemoration of 200 years of the Australian wool industry, a revised edition of Charles Massy's respected book, *The Australian Merino – The Story of a Nation,* is now available.



The first edition, published in 1990, rapidly became widely acknowledged as the 'bible' of Australia's Merino industry, being a complete and detailed account of its evolution and history.

In this second edition, Massy has uncovered more information about this remarkable animal and the significant amount of new content also focuses on Merino wool as the core of apparel fabric worldwide as well as outlining current and future industry development.

New chapters and research include:

- A history of the wool-cloth industry from the Middle Ages
- A detailed account of the Merino and wool textile industry in Medieval and pre-industrial Spain
- New material based on the latest research into the Medieval cloth industry in the Low Countries revealing the clear emergence of a new Merino textile fibre in the 15th century. This is then combined with new biological and molecular genetic work into a new discussion on the origin and evolution of the Merino
- A new chapter on the origin of animal breeding and the connection of the Age of Science and the European Enlightenment
- Extensive new research into the spread of Merino genes into Europe and the USA - in particular an unraveling of the extraordinarily important role of central European breeders (1800-1860)
- A new chapter on the process and implications of the Industrial Revolution
- New technical treatment of the biology and genetics of follicle and fibre growth and their relevance to breeding and the market
- Update of recent genetic trends, innovators and scientific developments
- Impact of the Australian Wool Corporation and the collapse of the Reserve Price Scheme
- A look at the rise of the sheep-meat market and its implications, finishing on the positive that the Merino's unique history over 2000-plus years is actually the key to its future survival and growth.

To order copies on-line of Charles Massy's *The Australian Merino,* visit http://www.wool.com.au/Publications/The_Australian_Merino/page__8344.aspx

An order form can be downloaded allowing purchase of this classic Australian and international reference.

Australian Wool Production Forecast

The AWI Wool Production Forecasting Committee has released an updated forecast of 395 million kg greasy for the 2007/08 season, unchanged from its September forecast.

The forecast is consistent with the season-to-date trend in available industry statistics, such as AWTA test volumes and AWEX's brand analysis, and largely reflects the decline in sheep numbers leading into the 2007/08 season.

The Committee expects the number of sheep and lambs shorn in 2007/08 to be 92 million head, 9% lower year-on-year.

"In response to the 2006 drought, Australian farmers reduced sheep numbers, which was evident in the 12% increase in sheep slaughterings in the 2006/07 season and a record lamb turn-off", said committee chairman Russell Pattinson.

For fleece weights, some improvement in seasonal conditions in some parts of Australia has occurred, with the most notable improvement in fleece weights expected to come from Victoria.

"Historically, in the season following a drought, fleece weights rebound as seasonal conditions return to normal. However, except for Victoria, this has not happened in other states, which means the average national fleece weight in the 2007/08 season is only expected to increase by 2% compared with the 2006/07 season" said Mr Pattinson.

Looking beyond the current season, with recent rains helping to improve the seasonal outlook and higher wool prices, the wool production outlook for the 2008/09 season is more optimistic. The committee will release its first forecast for the 2008/09 season in March 2008.

The committee receives in-depth research and detailed commentary from the state forecasting committees as well as major industry organisations including the Australian Wool Testing Authority, Australian Wool Exchange, Meat & Livestock Australia and the Australian Bureau of Statistics.

Updates of forecasts available on the AWI website at www.wool.com.au/forecasts.

Australian Shows 2007-08

Sydney Sheep Show, Sydney, NSW - April 2007

Supreme Merino	Emoh Ruo, Bundarra
Grand Champion Ram	Emoh Ruo, Bundarra
Grand Champion Ewe	Greenland, Berridale
Best Exhibit of Five	One Oak, Jerilderie
NSW Merino Pair	Roseville Park, Dubbo

Rabobank Katanning Show, WA - July 2007

Supreme Champion	Woolkabin, Katanning
Grand Champion Ram	Belka Valley, Bruce Rock
Grand Champion Poll Ram	Woolkabin, Katanning
Grand Champion Ewe	Peepingee, Narrogin
Grand Champion Poll Ewe	Claypans, Corrigin
Group 3 Rams & 2 Ewes	Kolindale, Wickepin
Pair August-shorn Rams	Quailerup West, Arthur River
Pair Aug-shorn Poll Rams	Woolkabin, Katanning
Pair March-shorn Rams	Belka Valley, Bruce Rock
Pair Mar-shorn Poll Rams	Lewisdale, Wickepin

Aust. Sheep Show, Bendigo, Vic. - July 2007

Supreme Champion	E. Strathglen, Tambellup WA
Grand Champion Ram	Concordia, Mysia
Grand Champion Ewe	E. Strathglen, Tambellup WA
Group of Five	Wurrook, Rokewood

Rabobank National, Dubbo, NSW - August 2007

Supreme Champion	Wanganella, Deniliquin NSW
Grand Champion Ram	Wanganella, Deniliquin NSW
Grand Champion Ewe	Merryville, Boorowa NSW
Champion Pair	Pemcaw, Dunedoo NSW
Most Successful Overall	Bocoble, Mudgee NSW

Perth Royal Show, WA - October 2007

Supreme Champion	Quailerup West, Arthur River
Champion Pair	Misty Hills, Kojonup
Grand Champion Ram	Quailerup West, Arthur River
Grand Champion Ewe	Peepingee, Narrogin
Grand Champion Poll Ram	Kolindale, Wickepin
Grand Champion Poll Ewe	Kolindale, Wickepin
Group 3 Rams	Manunda, Tammin
Most Successful	Claypans, Corrigin

Royal Adelaide Show, SA - September 2007

Supreme Exhibit	Greenfields, Hallett
Grand Champion Ram	Greenfields, Hallett
Grand Champion Ewe	Glendonald, Nhill, Vic
Grand Champion Poll Ram	Old Ashrose, Hallett
Grand Champion Poll Ewe	Terrick West, Prairie, Vic
Supreme Group	Greenfields, Hallett
Autumn Shorn Pair	Terrick West, Prairie, Vic

Great Southern, Canberra NSW - January 2008

Supreme Exhibit	Wurrook, Rokewood Vic
Grand Champion Ram	Wurrook, Rokewood Vic
Grand Champion Ewe	One Oak, Jerilderie
Grand Champion Sale Ram	Demondrille, Harden

New Australian Industry Cooperative Research Centre

Results are starting to flow from the new Sheep Cooperative Research Centre's (CRC) programs aiming to transform wool, meat and the sheep that produce them.

The Sheep CRC board and program leaders have met with the CRC's twenty partners to deliver progress reports and to confirm the strategic direction.

CEO James Rowe said, "We have a A$110m budget to develop and deliver new technology, information and genetic tools for the sheep industry to lift productivity, while continuing to improve product quality to meet changing consumer demands.

"The clear focus is to work with researchers, producers and supply chains to see critical research outcomes commercialised and fully exploited over the next seven years," he said.

"We are a CRC for wool, sheepmeat and the whole animal – our projects will deliver better wool, better meat and better options for sheep management."

He said there is potential to increase industry productivity gains from the current level of below 1%, up to at least 4% per annum.

The new Sheep CRC, officially launched in August, has four key research programs well underway:

- Transforming sheep and their management
- Next generation wool quality
- Next generation meat quality, and
- The Information Nucleus

Professor Rowe said the Information Nucleus is the engine room for accelerated genetic gain, and early research results are already being fed into Sheep Genetics for use by industry (see page 20).

"The target in our Next Generation Meat Quality program is to deliver lean meat yield increases of 20%.

"But we all know industry is ready to go beyond 'big and lean' – flavour, cooking and eating quality aspects will be part of the breeding package for producers to ensure lamb continues to be the 'Rolls Royce' of red meats.

"We're also preparing for the next phase of consumer trends - nutritional value", he said.

Other areas of research where there is already good progress include breeding and management for production of the whitest wool and ensuring comfort of woollen garments worn next to the skin.

***For further information and updates,* visit the website of the Australian industry's Sheep Cooperative Research Centre on www.sheepcrc.org.au and the CRC's Livestock Library on www.livestocklibrary.com.au**

Maiden Merino ewe conception rates

Dr Sue Hatcher, Senior Research Scientist, Orange Agricultural Institute, Orange
Phil Graham, Livestock Officer (Sheep & Wool), Yass
Sharon Nielsen, Biometrician, Orange Agricultural Institute, Orange
Dr Arthur Gilmour, Principal Research Scientist, Orange Agricultural Institute, Orange

The NSW Lifetime Wool project has shown that there is a strong relationship between both liveweight and fat score at joining and the number of foetuses scanned *in utero* for adult Merino ewes. But do maiden ewes respond in the same manner and what is the mechanism that drives these responses? Does increased liveweight or fat score at joining result in fewer dry maiden ewes or more twin bearing maiden ewes or both? The answers to these questions will have an impact on your culling decisions and the management of your breeding flock.

Liveweights and fat scores of maiden ewes at joining, along with the numbers of foetuses scanned at mid-pregnancy, from four NSW Lifetime Wool sites were analysed to explore the relationship between these three traits in maiden ewes.

Maiden ewe reproduction – all about liveweight

For maiden ewes, both liveweight and fat score at joining had a significant impact on the number of foetuses scanned per 100 ewes joined. But liveweight was the more important factor as it explained more of the variation in the number of foetuses scanned than fat score.

More foetuses were scanned per 100 ewes for those maidens that were heavier at joining. For every 5 kg increase in the liveweight of maidens at joining, an additional 8 foetuses were scanned at mid-pregnancy (Figure 1).

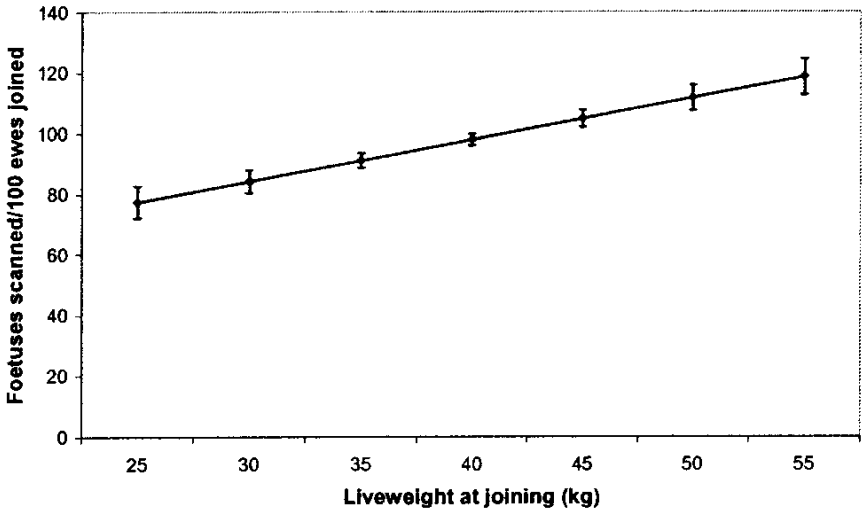


Figure 1: The number of foetuses scanned per 100 ewes joined increases linearly with increasing liveweight at joining.

What is driving this response?

The pregnancy scanning information of each ewe was used to calculate the probability of her being dry or having a single or multiple lambs. These probabilities were then used to determine what drives this response – is it fewer maidens being dry or more maidens bearing twins or a combination of both?

For maiden ewes, fat score at joining had a significant impact on the probability of a maiden ewe being dry or having a single or multiple lambs (Figure 2, next page). When fat score is low at joining, say score 2, about 61% of maidens will have a single lamb, 37% will be dry and only 2% will bear twins. But as fat score at joining increases:

- The probability of a maiden ewe being dry drops from 37% at score 2 to 16% at score 4.
- The probability that maidens will have a single lamb increases to about 69% at score 4.
- The probability of a maiden ewe bearing twins increases to 14% at score 4.

Therefore the impact of fat score at joining on reproduction of maiden ewes is to increase the probability of a maiden ewe bearing twins and decrease the probability of a maiden ewe being dry.

These trends were the average across the four sites. The actual probabilities of a maiden ewe being dry or having a single or multiple foetus varied between each site as did the degree of change of each with increasing fat score at joining.

Maiden ewe reproduction is strongly related to their liveweight at joining, For those maidens that do become pregnant the probability of them having twins is driven by their fat score at joining - fatter maidens at a given liveweight are more likely to have twins.

So what does this mean for managing a Merino breeding flock?

For maiden ewes, liveweight at joining is critical for reproduction. A target liveweight for maidens is between 40 and 45 kg. Provided maiden ewes reach this target at joining their reproduction response will tend to be only about 10% lower than adult ewes.

Producers need to develop a target liveweight for their hogget ewes to reach at 12 months of age; eg, in southern NSW, 28 kg. Such a target would allow producers to actively manage liveweight and fat score of maiden ewes during their second spring to ensure the 40–45 kg liveweight target is reached at first joining.

Improved fat score at joining for maiden ewes will result in more twin lambs being born in your flock. This will require thorough planning and management following pregnancy scanning to ensure optimal survival and production from these additional twin lambs.

For maiden ewes the probability of being dry is driven by liveweight. Therefore dry maiden ewes should be given a second chance and retained for mating as a 2½ year old.

(Continued on page 19)

Merinos Set the Mark

MERINO is the most profitable breed of sheep in the market place, according to the results of independent trials conducted in Western Australia.

The Department of Agriculture and Food WA (DAFWA) established ewe productivity trials in 1998 to benchmark sheep for meat, total weight lambs produced and wool production.

With over 21 teams benchmarked to date and another 50 still progressing through the program the results support the dominance of the Merino breed.

Among the teams are a SAMM x Merino cross, F1 and F2 Dohne Merino x Merino cross and a Finn x Merino cross.

The table in the next column shows the average income from both meat and wool for all teams, with the top 16 teams being all Merino bloodlines.

DAFWA Project Manager, Sheep Genetics, Dr Johan Greeff said the Merino is the major sheep breed in Australia, but recent importations of new breeds had created the impression that the Merino was not as productive as claimed.

Overseeing the research and productivity trials Dr Greeff said the results supported the Merino's dominance.

The productivity trials are an ongoing activity and more results will be available as more research is conducted.

"DAFWA maintains and co-ordinates benchmarking activities and conducts data collection, data analysis and the establishment of the trials," Dr Greeff said.

Estimated total income per ewe, using performance data from different Merino types and crosses over three shearings and two lambings in WA ewe productivity trials

Team rank	Wool returns	Meat returns	Total returns	Breed type
1	$102.91	$59.40	$162.31	Merino
2	$104.52	$55.03	$159.56	Merino
3	$95.51	$63.97	$155.47	Merino
4	$93.93	$59.65	$153.58	Merino
5	$93.11	$59.44	$152.55	Merino
6	$96.58	$55.88	$152.46	Merino
7	$90.93	$59.48	$150.41	Merino
8	$90.86	$51.64	$142.50	Merino
9	$82.60	$52.42	$136.68	Merino
10	$77.41	$59.15	$136.55	Merino
11	$75.67	$60.76	$136.44	Merino
12	$76.27	$57.05	$132.32	Merino
13	$76.82	$55.14	$131.96	Merino
14	$68.84	$59.74	$128.59	Merino
15	$63.70	$64.87	$128.57	Merino
16	$67.85	$58.90	$126.75	Merino
17	$59.08	$66.57	$125.65	F1 Dohne
18	$55.59	$67.62	$123.21	F2 Dohne
19	$52.76	$62.82	$115.58	Merino
20	$41.89	$70.54	$112.44	F1 SAMM
21	$52.87	$57.67	$110.55	Finn cross

Total average income $136.91

Contact: Dr Johan Greeff, ph + 61 8 9368 3624

(Continued from page 18)

Remember that these results deal with the number of foetuses scanned at mid-pregnancy. The impact of maternal nutrition (i.e. fat score) during late pregnancy and lactation will have an impact on both birth and weaning weights and hence survival of the progeny – this is particularly important for ewes carrying twins. It is therefore important to monitor ewes at critical stages during their reproductive cycle to minimise the difference between the number of foetuses scanned *in utero* and subsequent marking and weaning percentages.

Maiden ewe reproduction is variable between flocks

The data from this analysis has clearly shown that maiden ewes with higher liveweights at joining will have a higher number of foetuses scanned *in utero*. However the magnitude of the response to liveweight at joining can vary significantly between flocks of Merinos. For this reason it is important to know how responsive your flock is when making decisions about pasture availability and supplementary feeding of ewes leading up to joining.

See 'Primefact 309' for information on calculating how responsive the reproduction of your flock is to improved nutrition at joining.

Further information: Updates on this paper and other related 'Primefacts" can be found on the website of the NSW Department of Primary Industries, www.dpi.nsw.gov.au/primefacts

Acknowledgement: NSW Department of Primary Industries

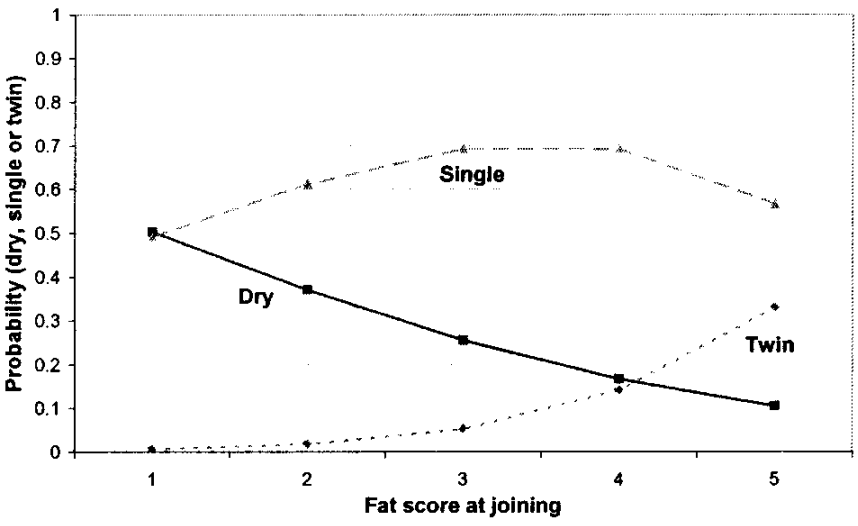


Figure 2: Increased foetuses scanned in utero of maiden ewes with increased fat score at joining is due to more maidens bearing twins and less being dry.

World Class Lamb Research

The first drafts of prime lambs from the Australian Sheep CRC's unique national research program have had their vital carcase and quality statistics measured, with more lambs to come over the next month.

The CRC's world-first Information Nucleus flock involves mating approximately 100 sires to 5,000 ewes annually on eight sites in key sheep production areas. The progeny consist of the main Merino and crossbred types used by industry.

Sheep CRC meat quality program leader, Dr Dave Pethick, says the Information Nucleus flock will provide a whole new set of information to the entire lamb industry supply chain.

"The industry has done a lot of work on carcase quality over the years, on weight, muscling and fat levels.

"While we'll measure those traditional and important production traits, we'll also assess new consumer-orientated eating quality traits, such as tenderness and intramuscular fat (marbling).

"We'll also collect data on the human health factors such as iron, zinc and fatty-acid composition – particularly Omega 3, from near 2,000 lambs every year for 5 years of the program."

Dr Pethick says mobs from all sites will be sent off to collaborating abattoirs as they grow out to the targeted average of 21.5 kg liveweight.

Dr Pethick says the research will provide a "beautiful insight" into the effects of the environment and genetics on important traits.

"The key is that as all these lambs are genetically linked – through common sires – we can account for environmental and genetic variations.

"For instance, we can identify and measure if any differences in eating quality parameters of WA or Victorian lambs might be due to production systems, and/or sires and breed.

"We can make statements important to the future of the lamb industry about key nutritional facts."

He says when all the lambs are processed the next step is a massive laboratory measurement phase followed by extensive data analysis.

"In the short term, we will have some detailed information on human health aspects and how we can present lamb's many attributes to the consumer – far beyond the traditional 'it's tender and tastes good'.

"Down the track, as more information comes out, with our research partners we'll look to develop some new estimated breeding values on these 'new' consumer type traits, such as ASBVs for eating quality and human health."

Sheep CRC research is enabled and funded through collaboration with research partners: AWI, MLA, DAFWA, SARDI, VIC DPI, NSW DPI, QLD DPI&F, University of WA, University of Tasmania, UNE and Murdoch University, CSIRO, AWTA, AMPC, Sheepmeat Council, WoolProducers Australia, Allflex and farm consultants: Holmes Sackett & Associates, Mike Stephens & Associates and JRL Hall & Co.

Further information and updates available by visiting www.sheepcrc.org.au

Test Marketing Program Results announced

The results of the Test Marketing Program (TMP) were recently announced at the 76th Congress of the International Wool Textile Organisation (IWTO) in Edinburgh, UK.

The TMP was a collaborative project between Australian Wool Innovation (AWI), IWTO and Australian Wool Services (AWS). The three organisations joined forces in May 2005, contributing US$6.6m in funding and resources for the project to identify manufacturers, retailers and end consumers who will stimulate demand for fine wool apparel.

Two North American retailers were selected to trial the program, Saks Fifth Avenue and Dillards. The industry funds were used for consumer and product marketing, in addition to in-store education programs for customers and sales staff.

IWTO president, Michael Lempriere, said the aim of the TMP was to test the degree to which consumer marketing can have a measurable, positive impact on wool sales and this has been achieved.

"In terms of dollar value of the garments sold, there was between 8 and 12 per cent increase at Saks Fifth Avenue, and between 6 and 7.5 per cent increase at Dillards," said Mr Lempriere.

"Perhaps the most positive result was the leveraging of funds, with Saks creating media value of over US $7m from a contribution of US$1.5m.

"Dillards leveraged the US$1.5m contributed by the TMP to create a media value of over US$4.6m."

AWI deputy chairman, Brian van Rooyen, said these results show what can be achieved by building good working relationships with key players in the market.

"The recommendation of the TMP is to continue marketing work, but in more targeted ways by selecting specific retail and brand partners; with a commitment of about US$250,000 per year," said Mr van Rooyen.

"There are some elements of the TMP that are more cost effective, such as staff training and targeted in store product marketing; and AWI will continue to support these types of activities. There has been very good collaboration across the international wool industry, to market our fibre in the United States.

"I think these results show a strong future for wool. With targeted marketing and education of the end-consumer, there is strong demand for this premium fibre."

IWTO Congress Venues for 2008 and 2009

The main industry get-together in 2008 will be the IWTO Congress in Beijing, China from 13 to 16 April.

The location has also been set for the 2009 Congress, to be Frankfurt, Germany from 14 to 17 June.

Further information: www.iwto.org